

FIG. A-1a

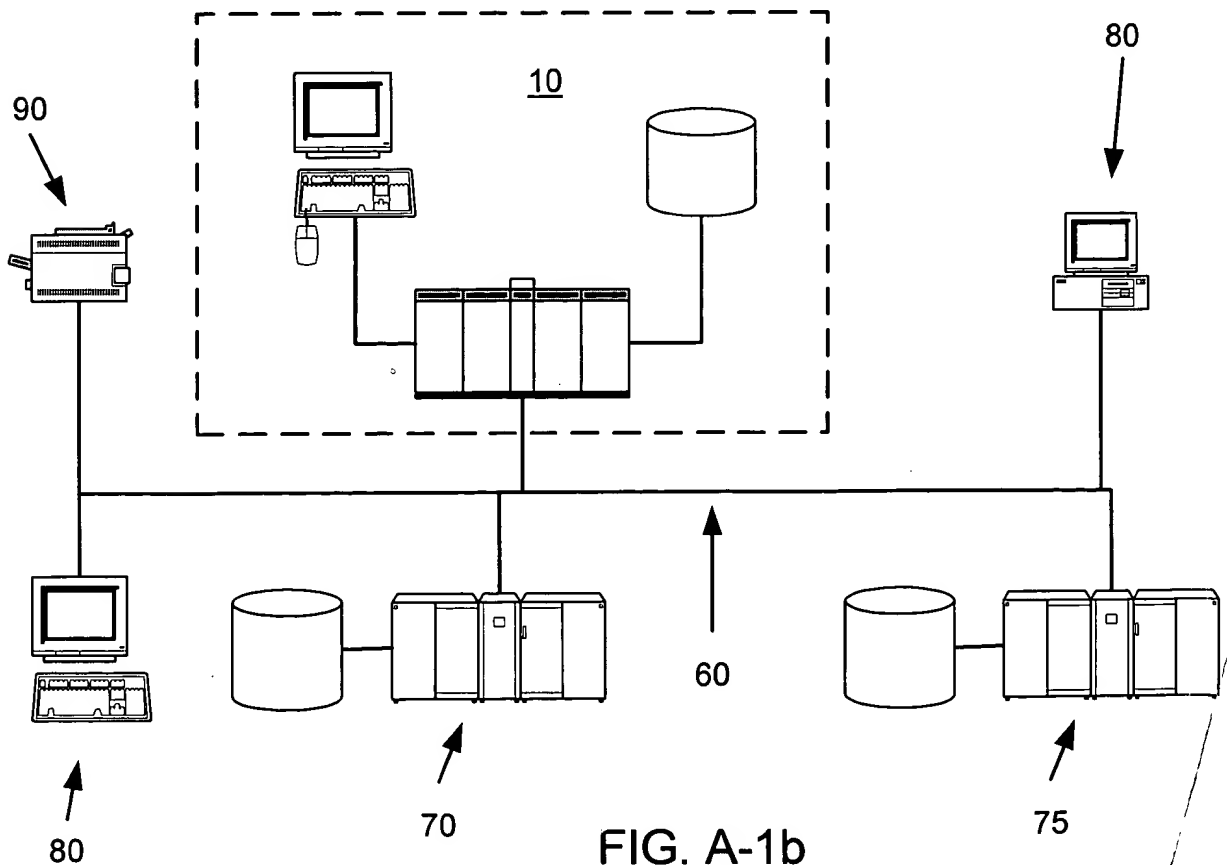
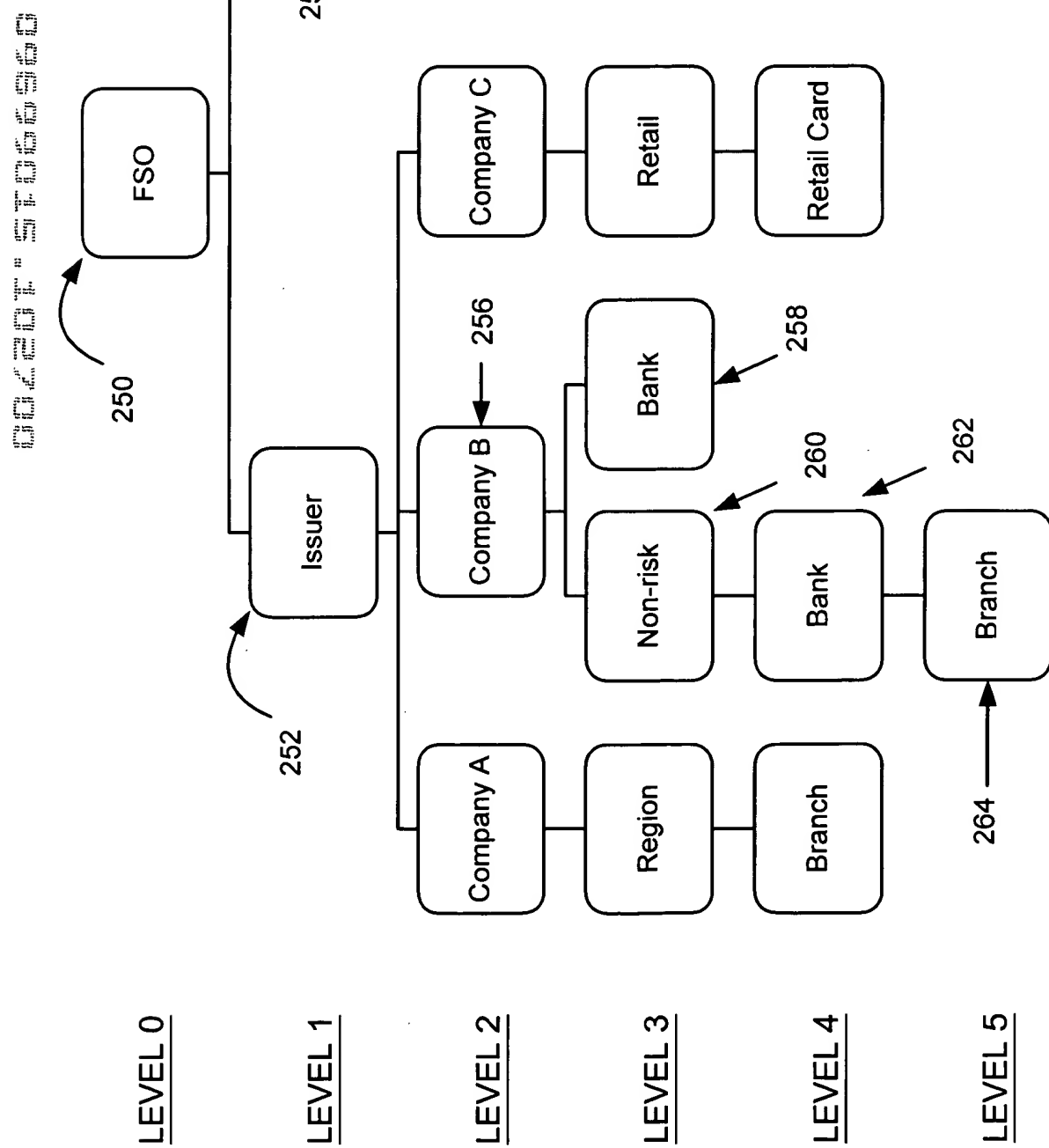


FIG. A-1b

000001 51000000



**FIG. A-2**

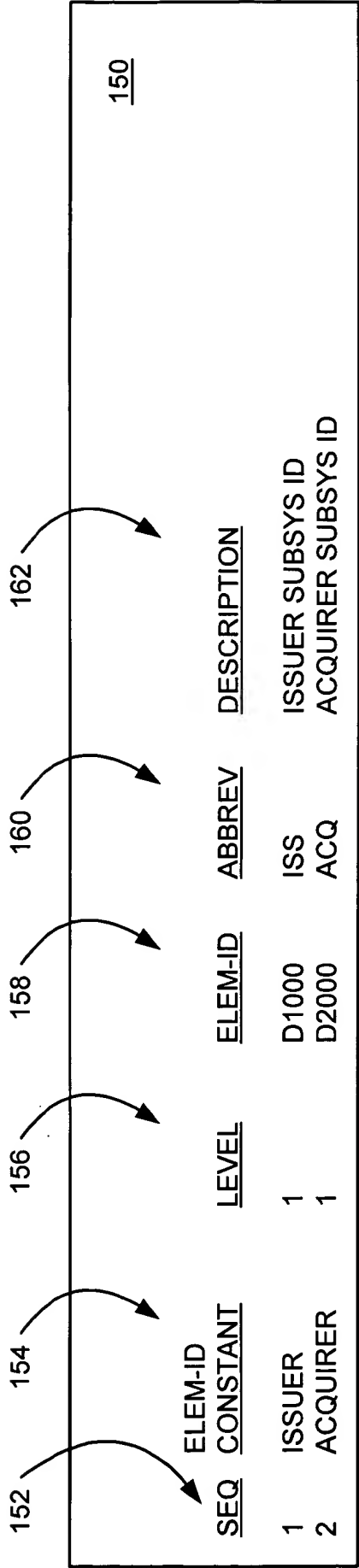


FIG. A-3

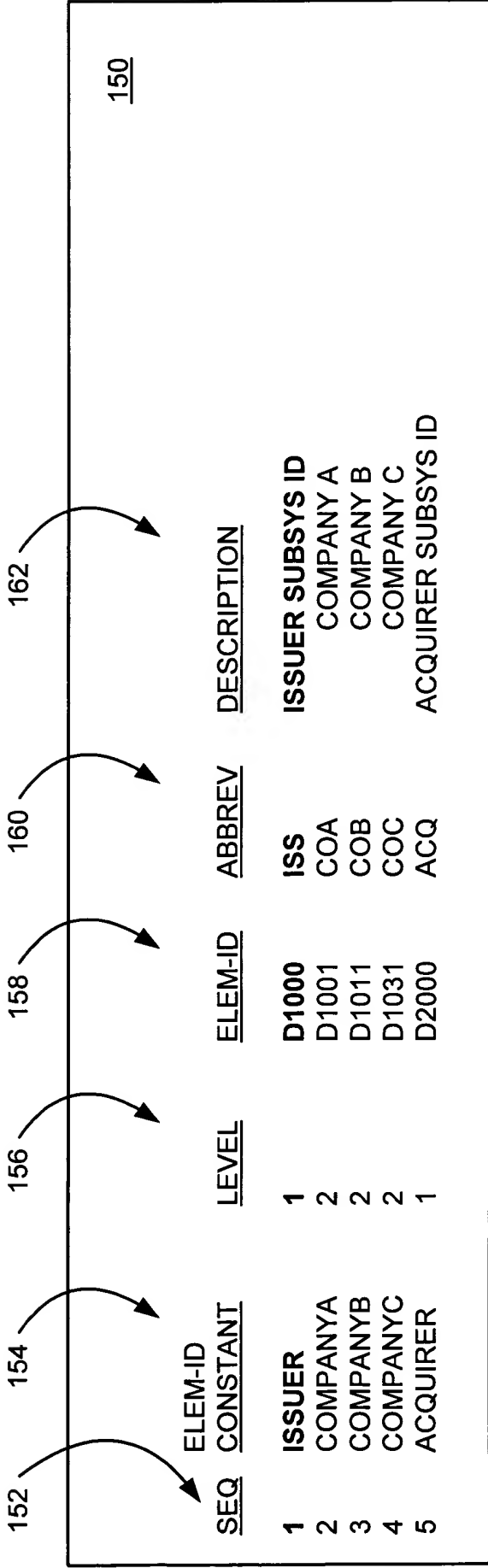


FIG. A-4

[illegible]

<u>SEQ</u>	<u>ELEM-ID</u> <u>CONSTANT</u>	<u>LEVEL</u>	<u>ELEM-ID</u>	<u>ABBREV</u>	<u>DESCRIPTION</u>
1	ISSUER	1	D1000	ISS	ISSUER SUBSYS ID
2	COMPANYA	2	D1001	COA	COMPANY A
3	COMPANYB	2	D1011	COB	COMPANY B
4	NONRISK	3	D1012	NON	NON-RISK ACCOUNTS
5	BANK	3	D1021	BNK	BANK
6	COMPANYC	2	D1031	COC	COMPANY C
7	ACQUIRER	1	D2000	ACQ	ACQUIRER SUBSYS ID

**FIG. A-5**

152	154	156	158	160	162	150
SEQ	ELEM-ID	LEVEL	ELEM-ID	ABBREV	DESCRIPTION	
1	ISSUER	1	D1000	ISS	ISSUER SUBSYS ID	
2	COMPANYA	2	D1001	COA	COMPANY A	
3	REGION	3	D1002	RGN	REGIONAL OFFICE	
4	BRANCH	4	D1003	BRN	BRANCH OFFICE	
5	COMPANYB	2	D1011	COB	COMPANY B	
6	NONRISK	3	D1012	NON	NON-RISK ACCOUNTS	
7	BANK	4	D1013	BNK	NON-RISK BANK	
8	BRANCH	5	D1014	BRN	BANK BRANCH	
9	BANK	3	D1021	BNK	BANK	
10	COMPANYC	2	D1031	COC	COMPANY C	
11	RETAIL	3	D1032	RET	RETAIL STORE	
12	RETAILCARD	4	D1033	RTC	PRIVATE-LABEL CREDIT CARD	
13	ACQUIRER	1	D2000	ACQ	ACQUIRER SUBSYS ID	
14	COMPANYA	2	D2001	COA	COMPANY A	
15	REGION	3	D2002	RGN	REGIONAL OFFICE	
16	BRANCH	4	D2003	BRN	BRANCH OFFICE	
17	COMPANYB	2	D2011	COB	COMPANY B	
18	BANK	3	D2012	BNK	BANK	
19	BRANCH	4	D2013	BRN	BANK BRANCH	

FIG. A-  
6

<u>ISS</u>	<u>COA</u>	<u>RGN</u>	<u>BRN</u>	<u>NODE NUMBER</u>
10, 10,	1, 1,	10, 10,	100 200	4 5

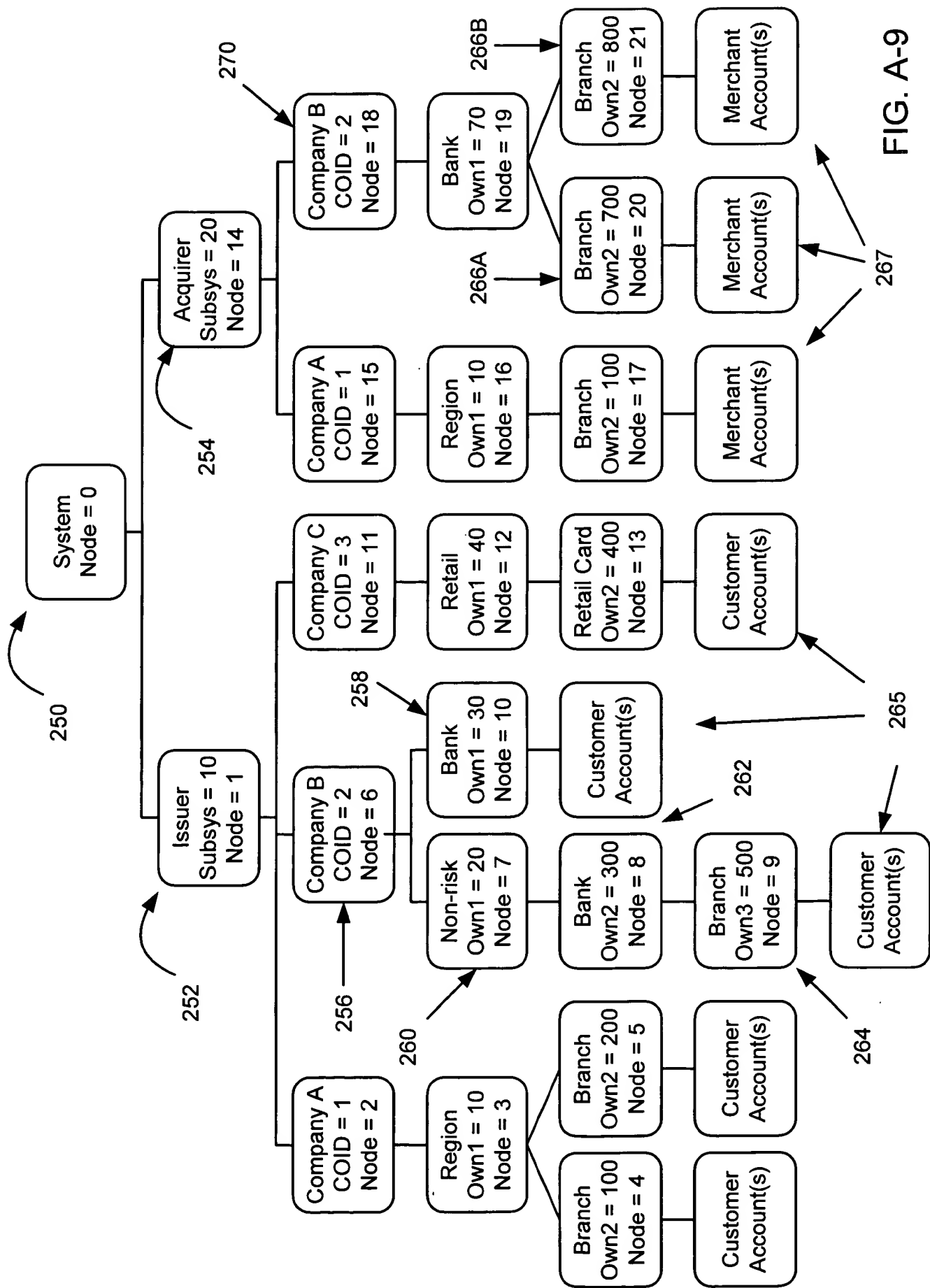
170

FIG. A-  
7

<u>ACQ</u>	<u>COB</u>	<u>BNK</u>	<u>BRN</u>	<u>NODE NUMBER</u>
20, 20,	2, 2,	70, 70,	700 800	20 21

170

FIG. A-  
8



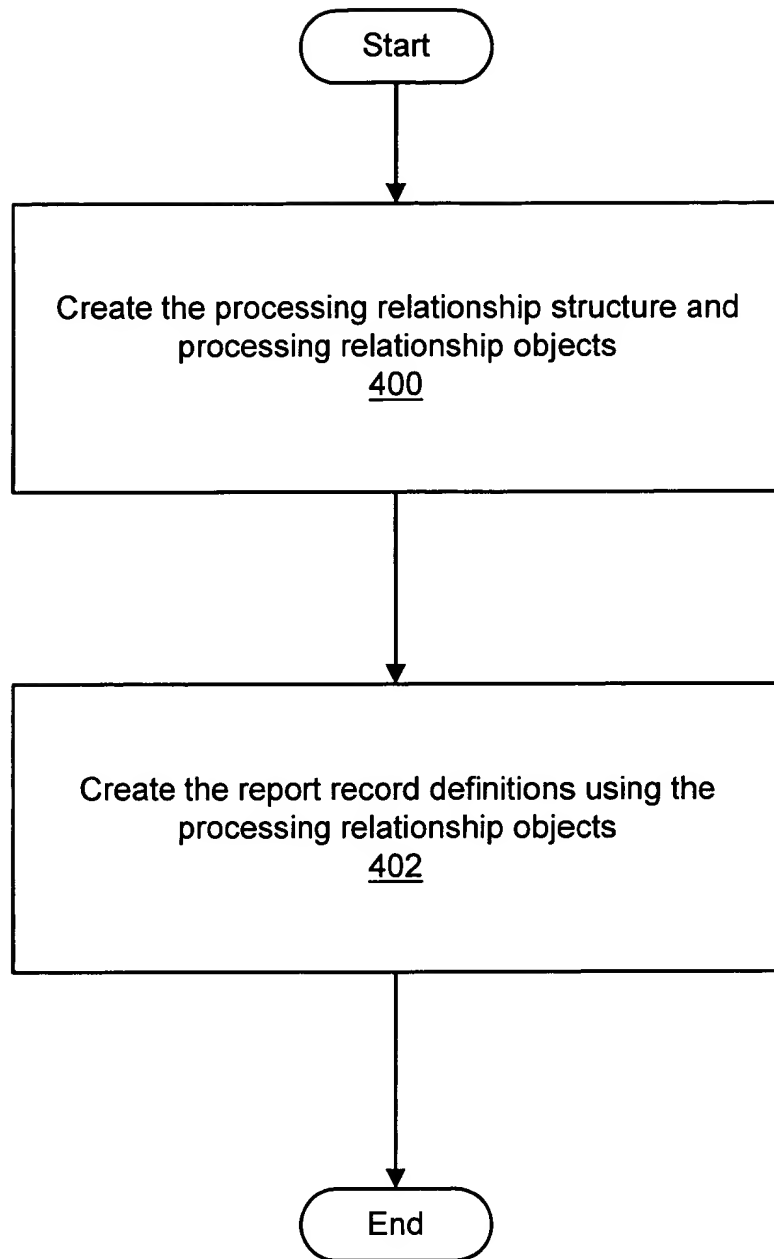
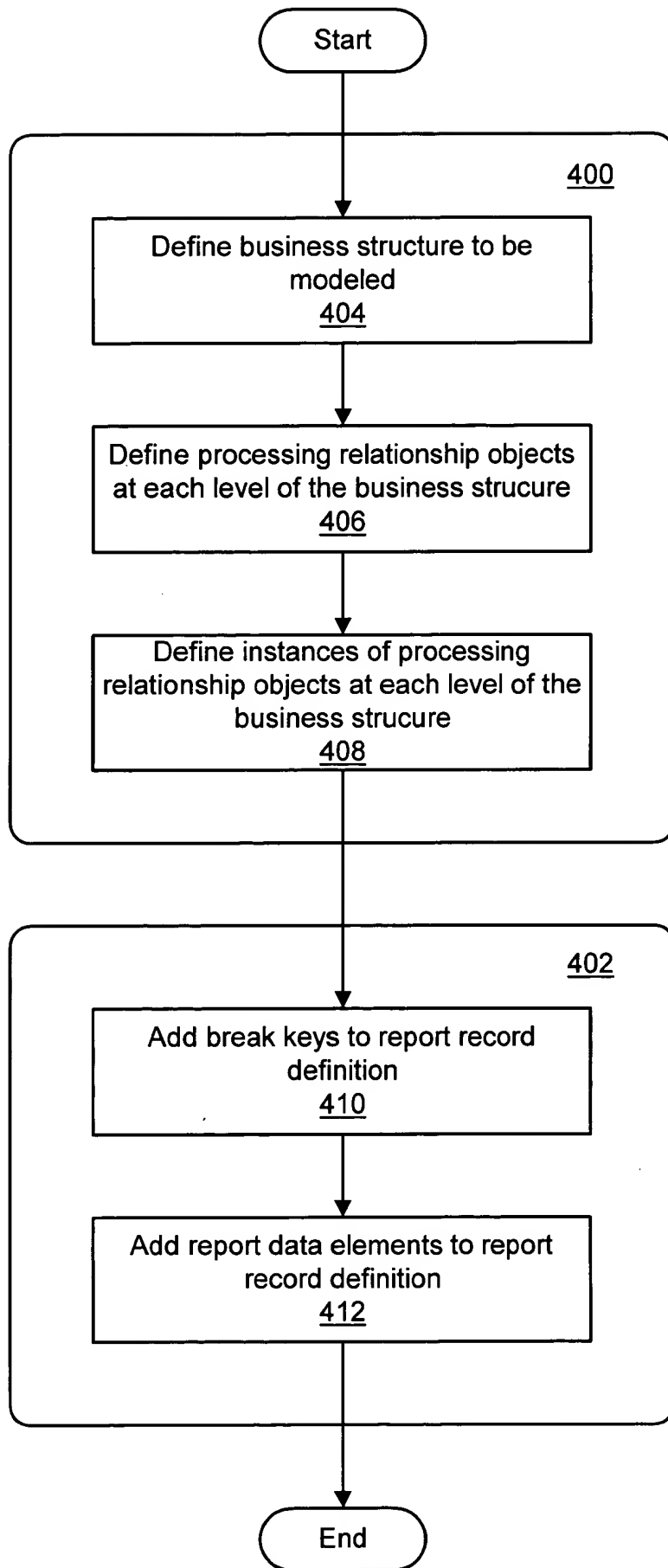


FIG. A-  
10a





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302207 " 57365960

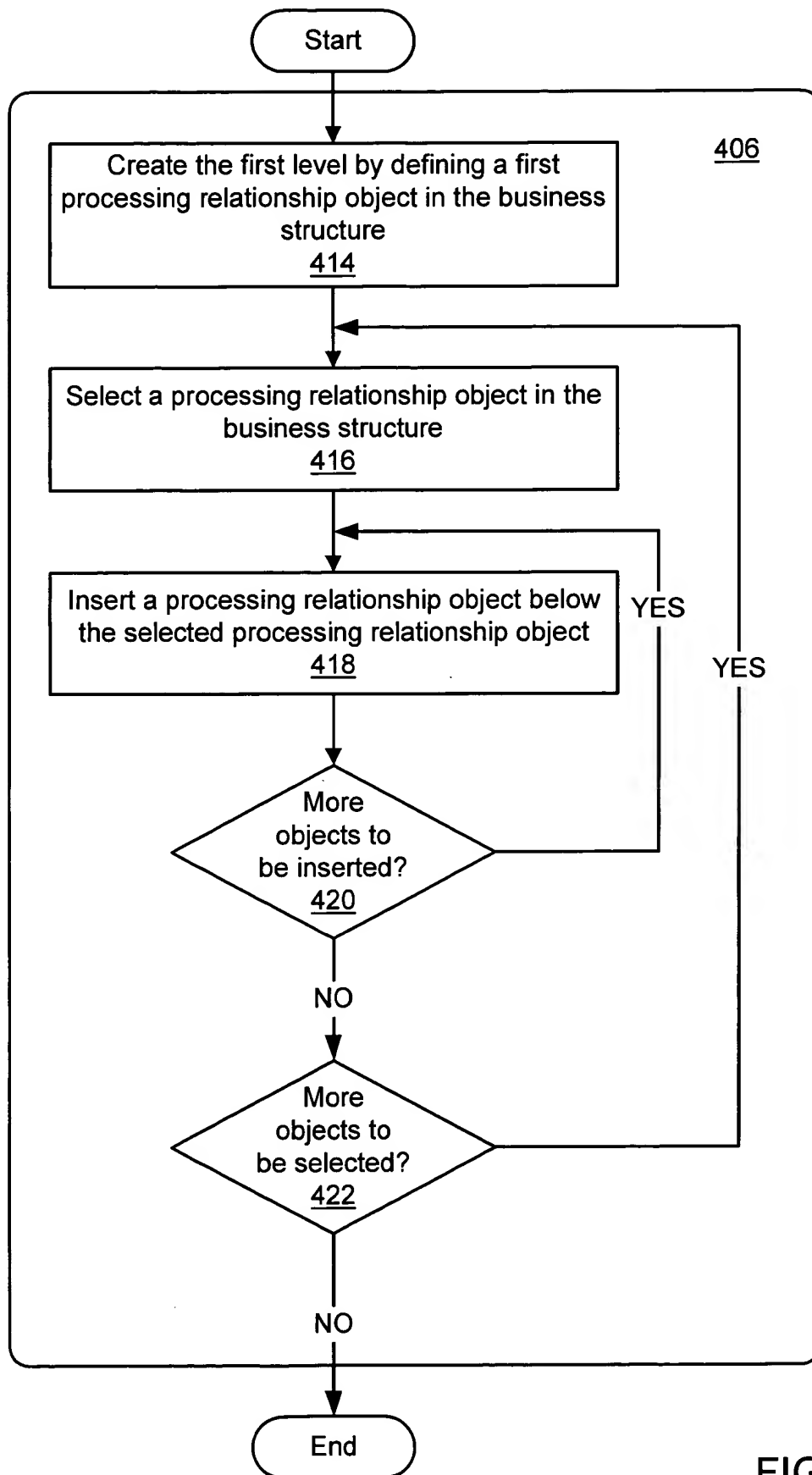


FIG. A-10c

002207-57066960

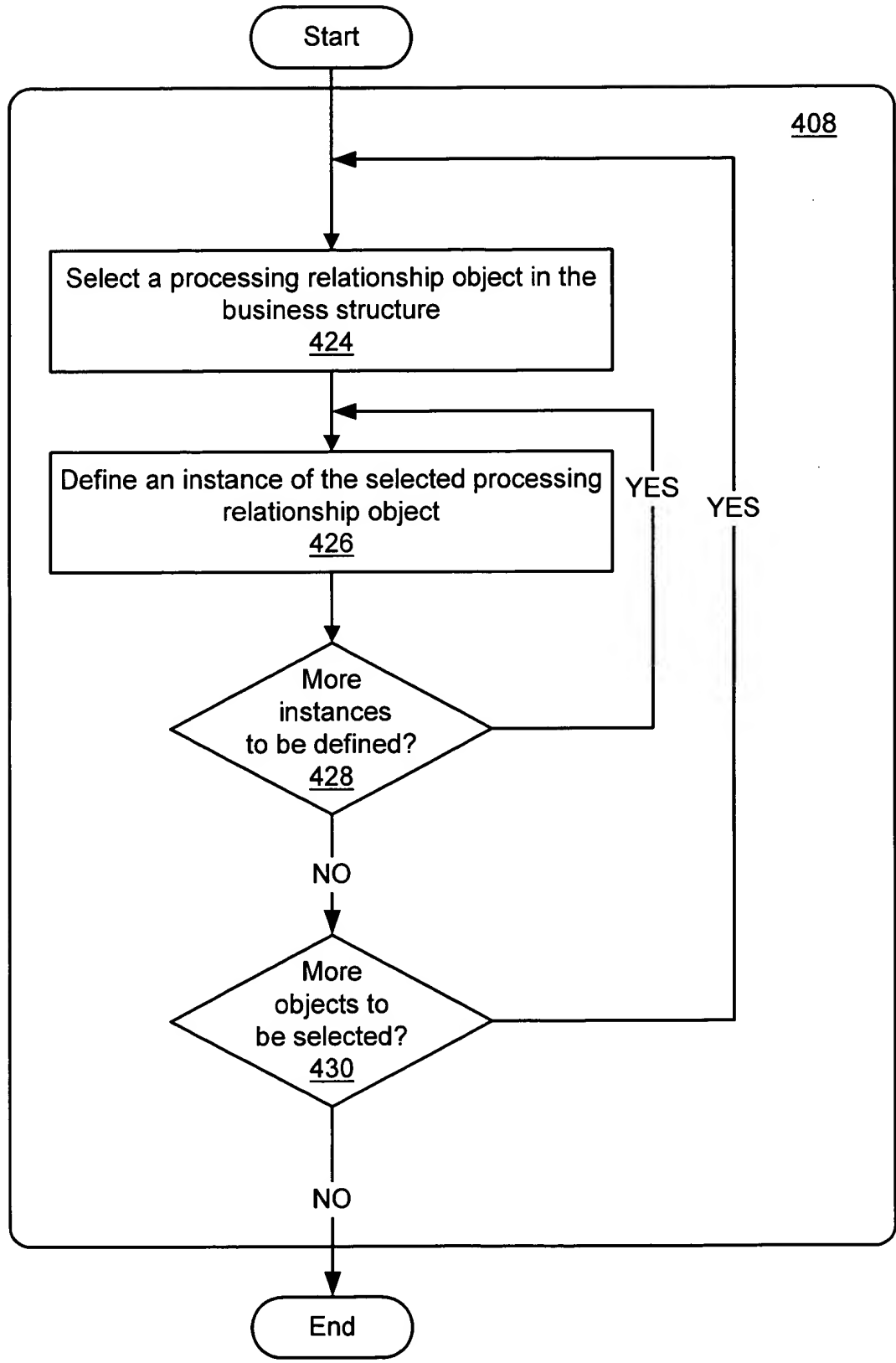


FIG. A-10d

	340	342
12	10,1,10,100	
2	10,1,10,200	
3	10,1,20,100	
9	10,2,10,300	
6	20,1,10,100	

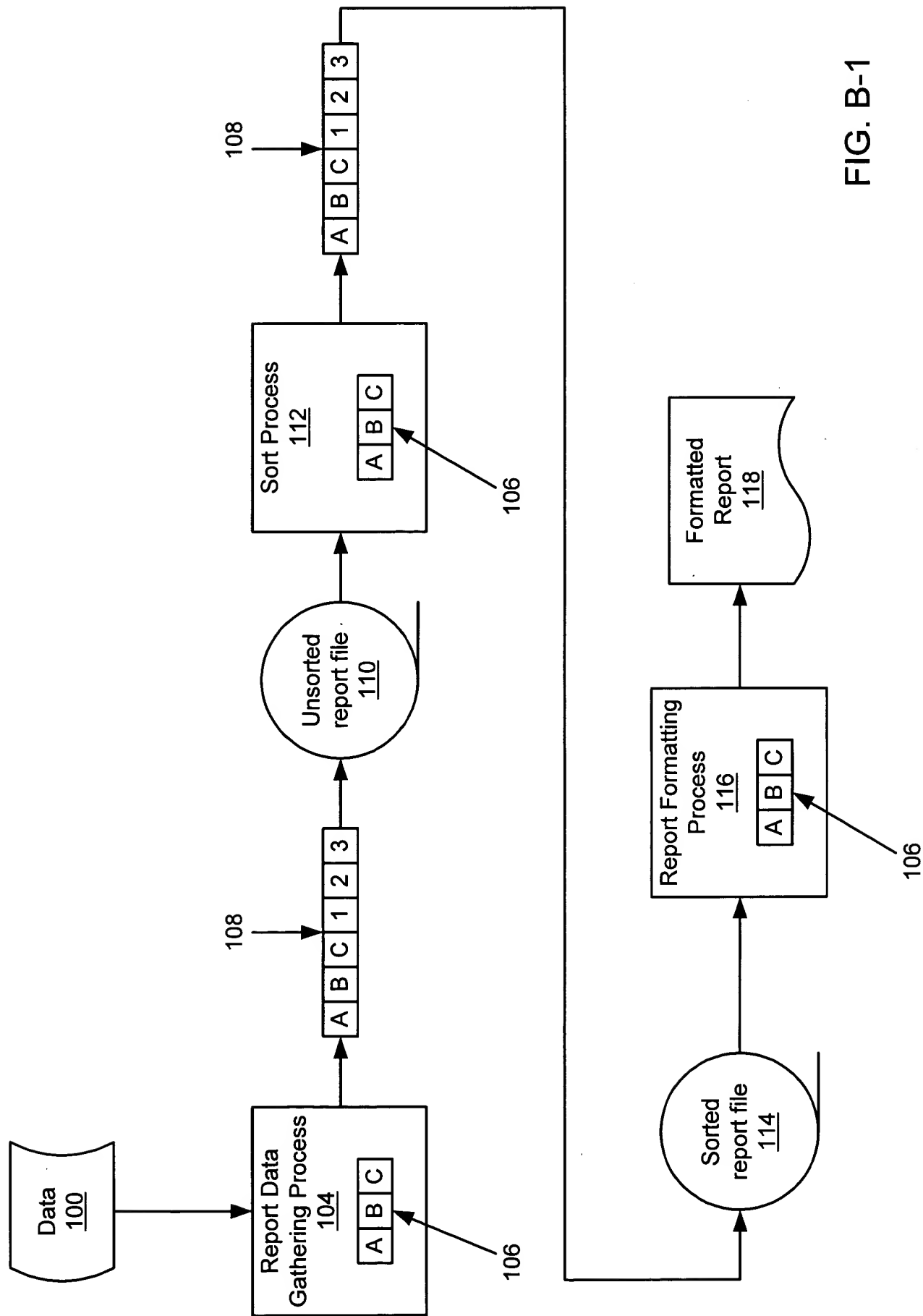


FIG. B-1

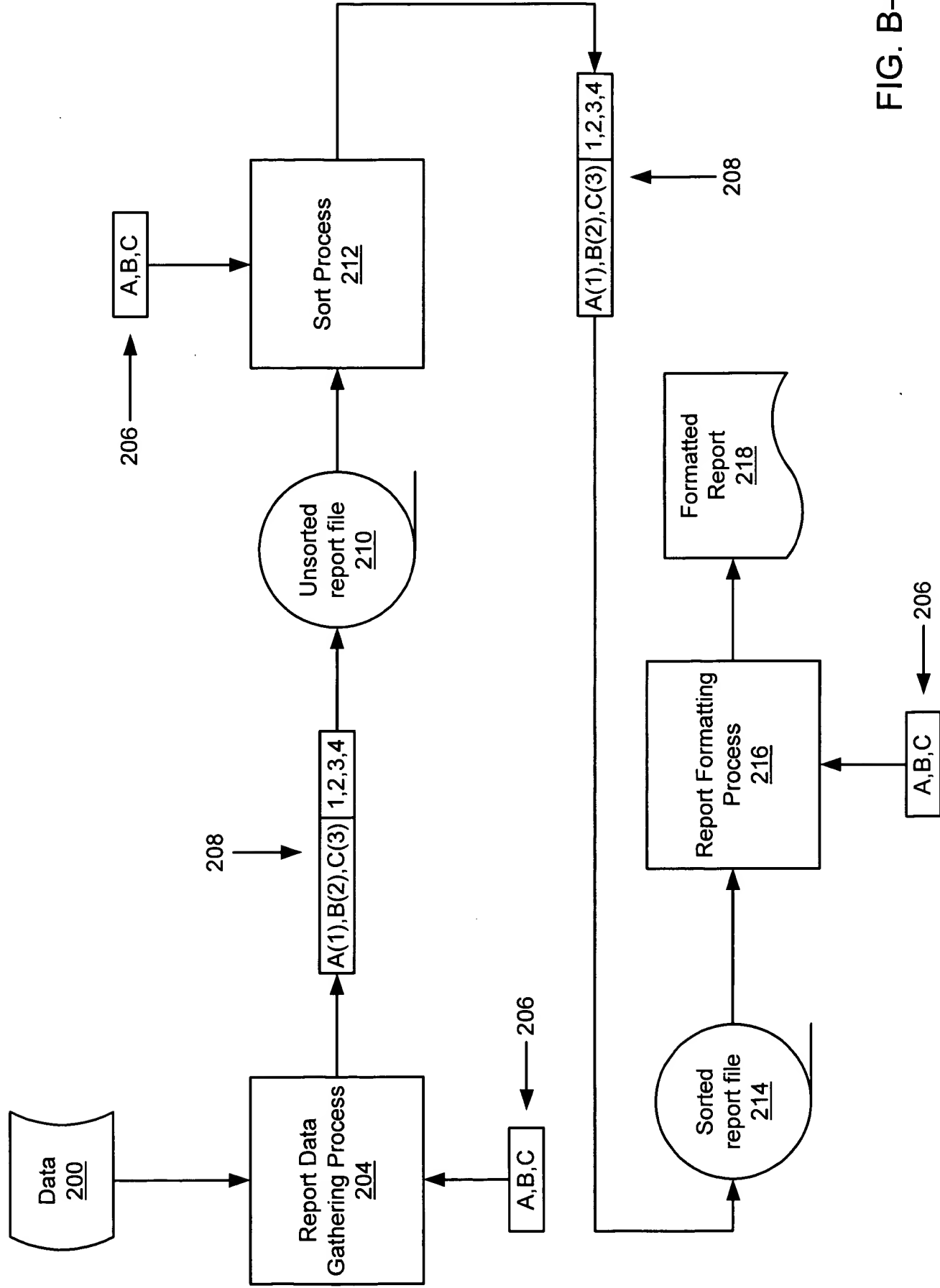
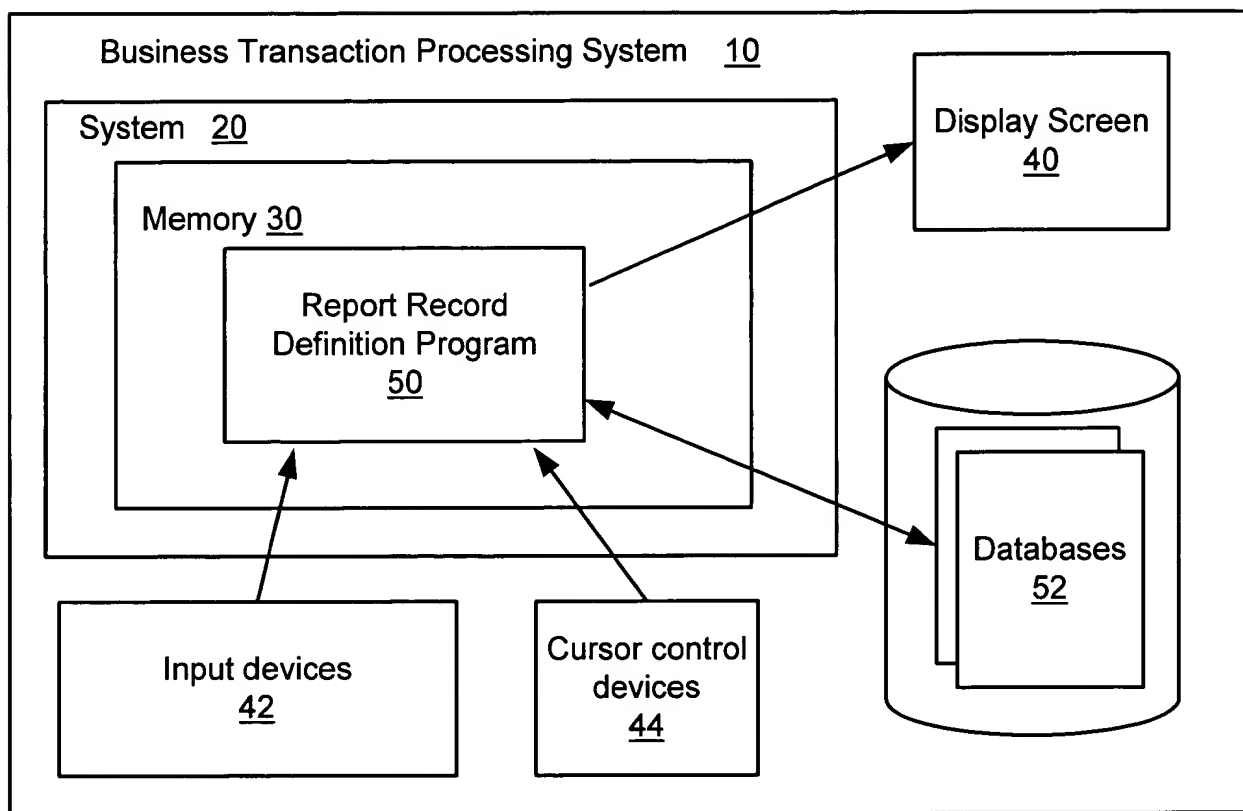
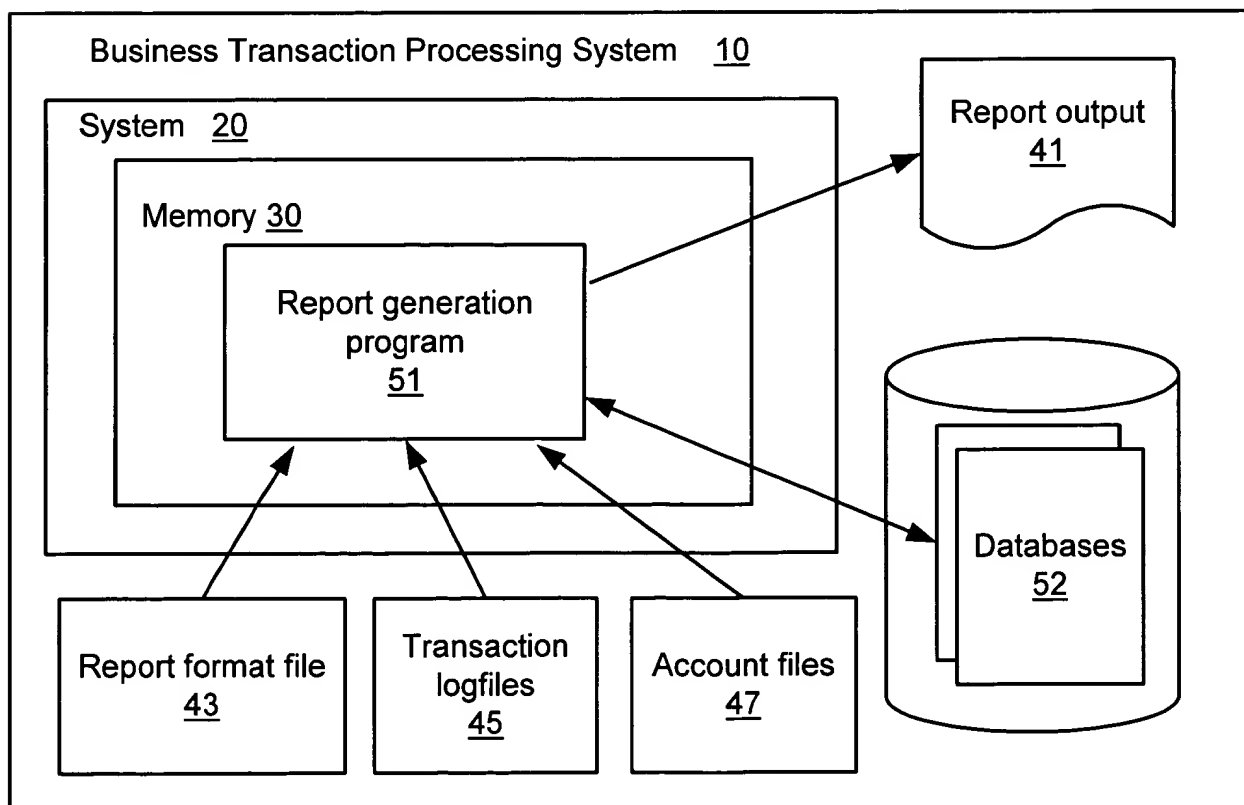


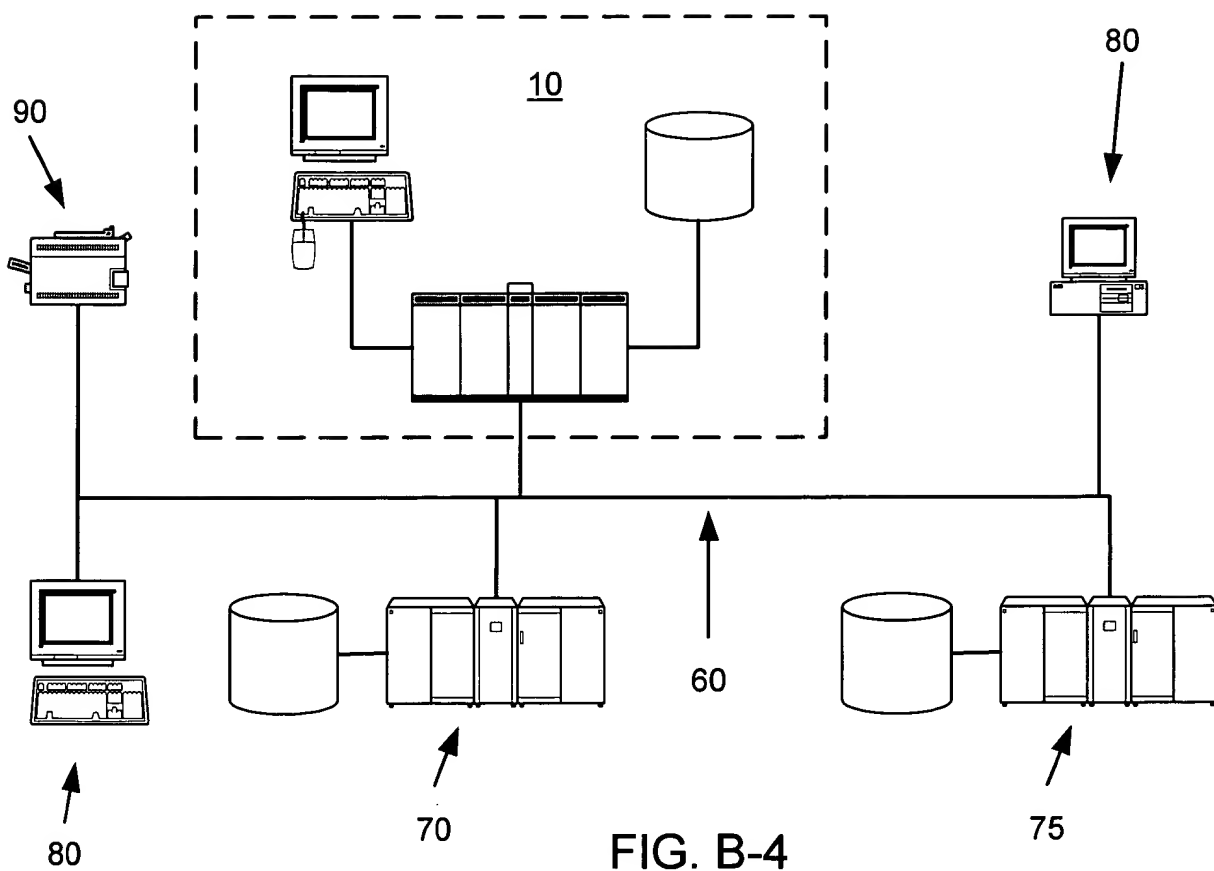
FIG. B-2



**FIG. B-3a**



**FIG. B-3b**





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Global Bank

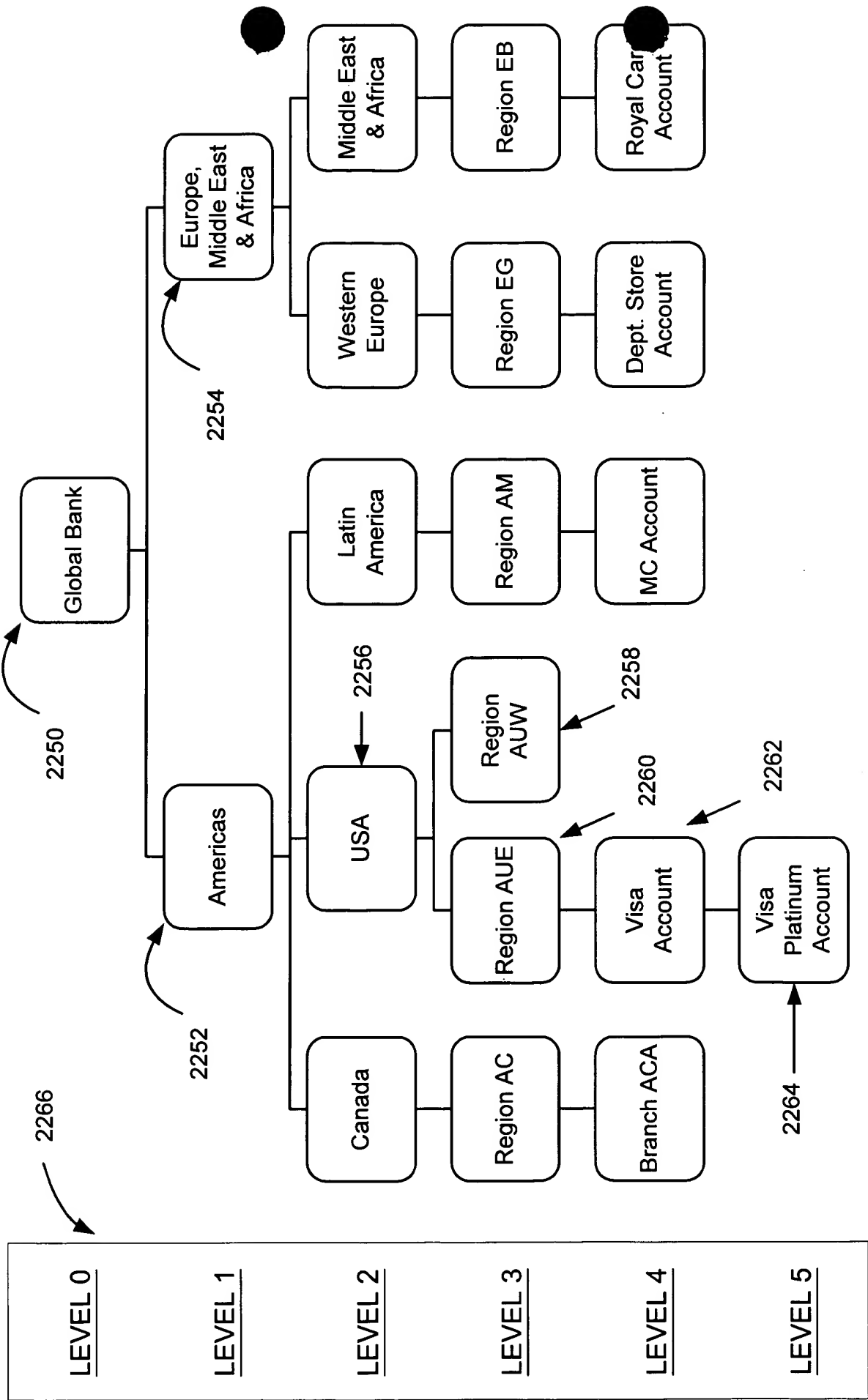


FIG. B-5a

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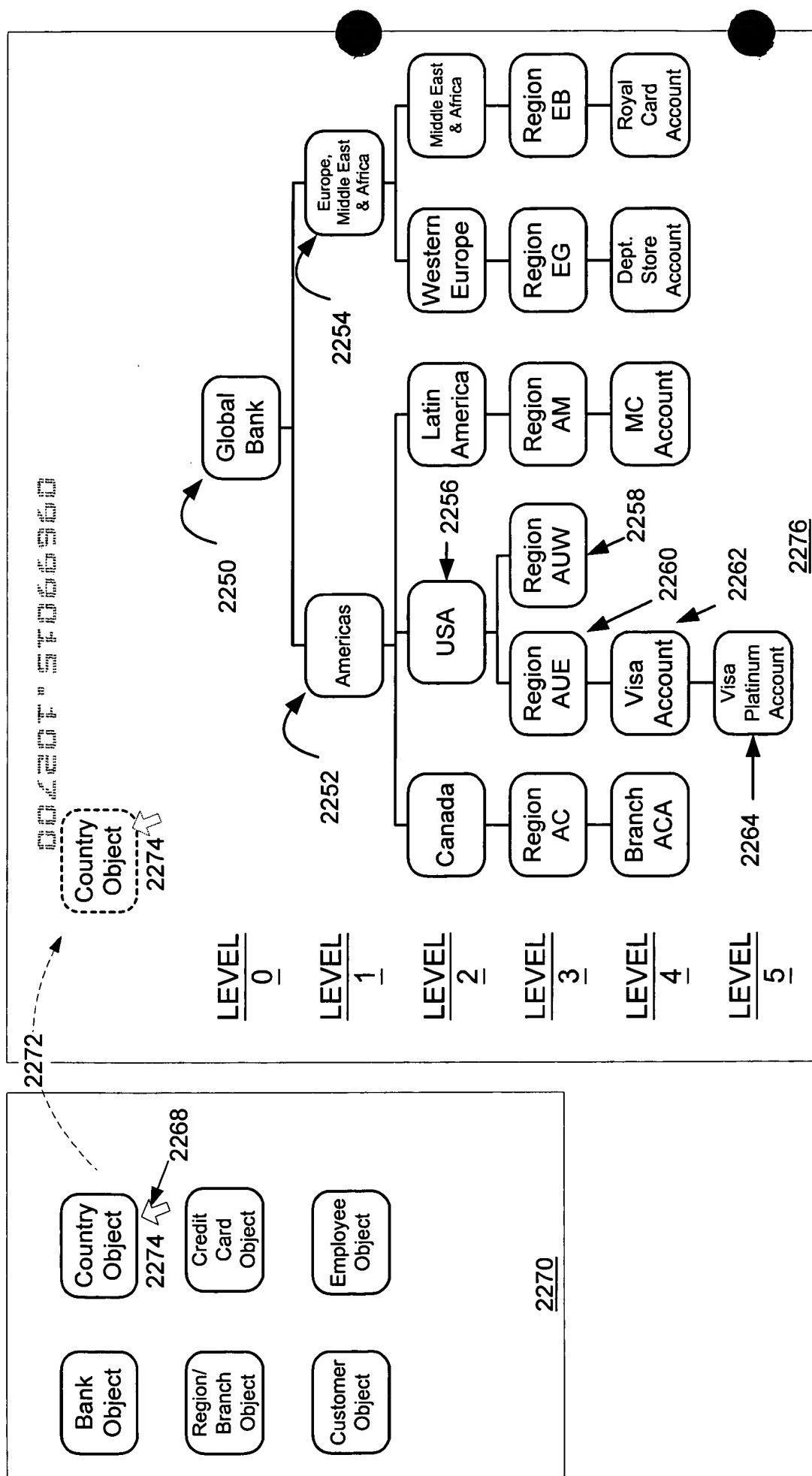


FIG. B-5b

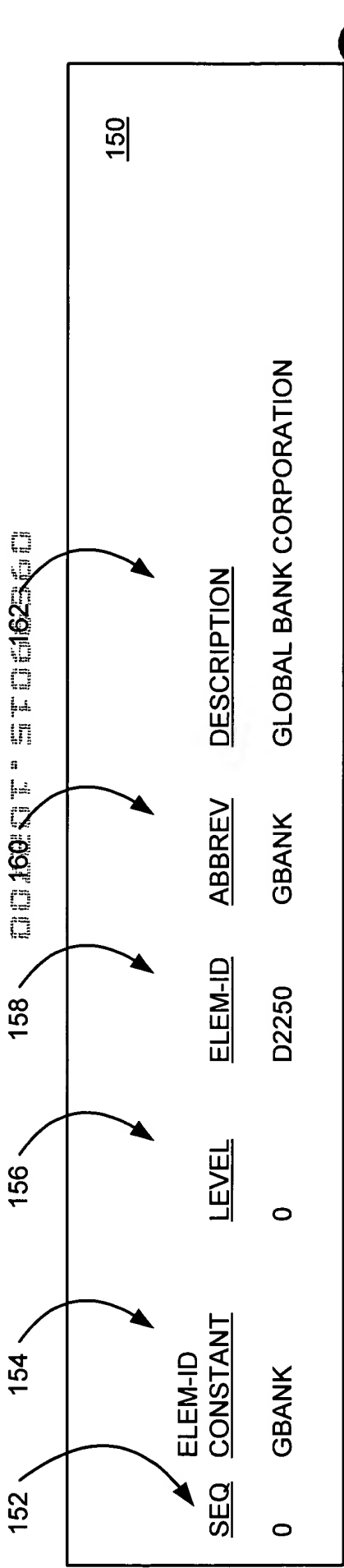


FIG. B-3c

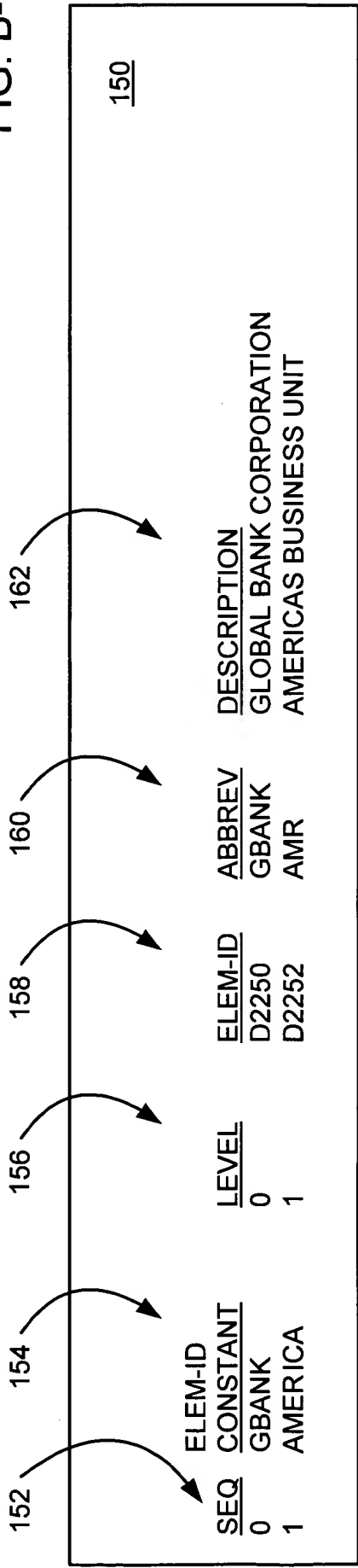


FIG. B-3d

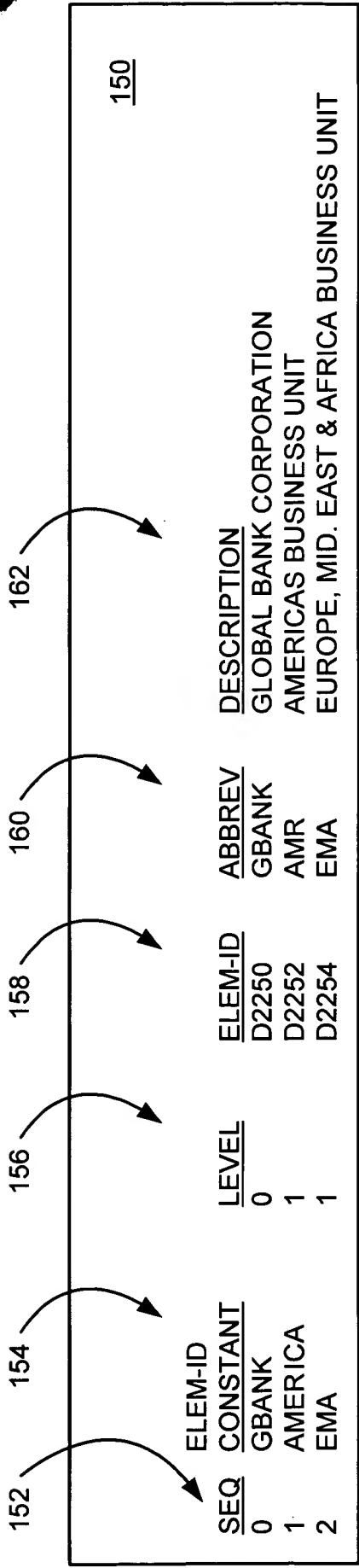


FIG. B-3e

CODE SET 5106560

LEVEL 0

LEVEL 1

LEVEL 2

LEVEL 3

LEVEL 4

LEVEL 5

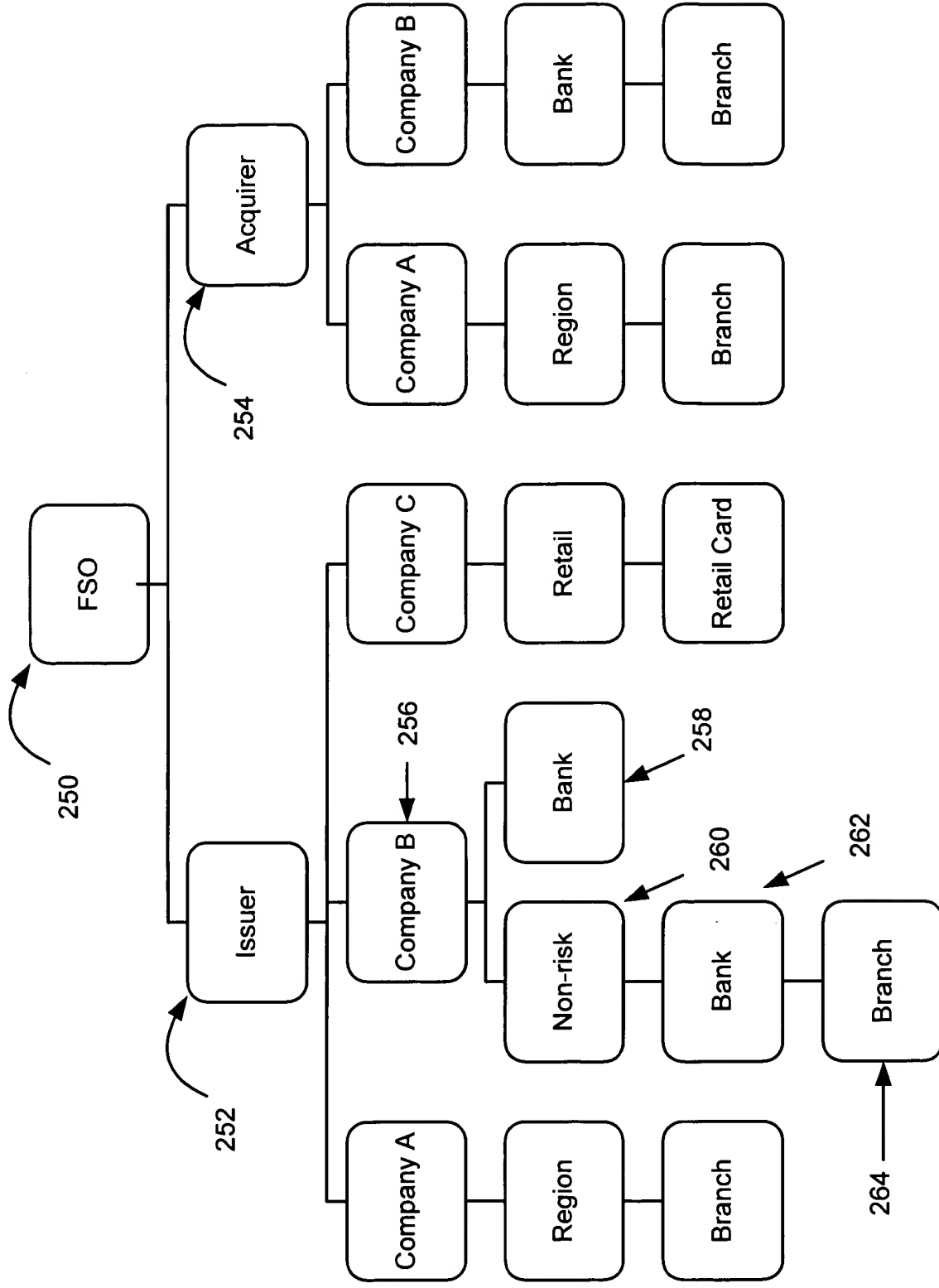


FIG.B-5f

152	154	156	158	160	162	150
SEQ	ELEM-CONSTANT	LEVEL	ELEM-ID	ABBREV	DESCRIPTION	
1	ISSUER	1	D1000	ISS	ISSUER SUBSYS ID	
2	COMPANYA	2	D1001	COA	COMPANY A	
3	REGION	3	D1002	RGN	REGIONAL OFFICE	
4	BRANCH	4	D1003	BRN	BRANCH OFFICE	
5	COMPANYB	2	D1011	COB	COMPANY B	
6	NONRISK	3	D1012	NON	NON-RISK ACCOUNTS	
7	BANK	4	D1013	BNK	NON-RISK BANK	
8	BRANCH	5	D1014	BRN	BANK BRANCH	
9	BANK	3	D1021	BNK	BANK	
10	COMPANYC	2	D1031	COC	COMPANY C	
11	RETAIL	3	D1032	RET	RETAIL STORE	
12	RETAILCARD	4	D1033	RTC	PRIVATE-LABEL CREDIT CARD	
13	ACQUIRER	1	D2000	ACQ	ACQUIRER SUBSYS ID	
14	COMPANYA	2	D2001	COA	COMPANY A	
15	REGION	3	D2002	RGN	REGIONAL OFFICE	
16	BRANCH	4	D2003	BRN	BRANCH OFFICE	
17	COMPANYB	2	D2011	COB	COMPANY B	
18	BANK	3	D2012	BNK	BANK	
19	BRANCH	4	D2013	BRN	BANK BRANCH	

FIG. B-6

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FIG. B-7

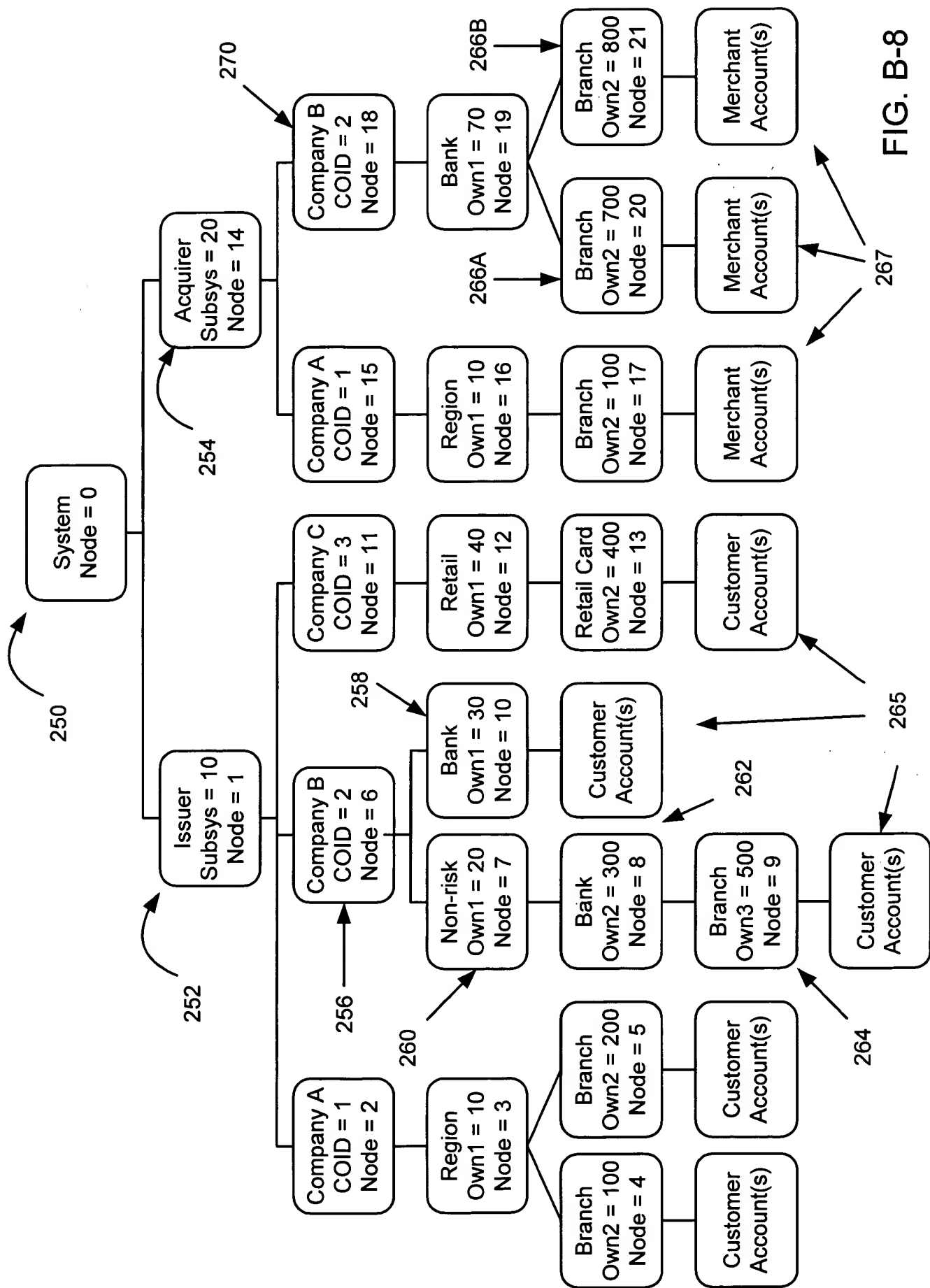


Diagram illustrating a table structure (130) with columns and rows. The columns are labeled: SEQ, BRK LVL, ELEM-ID, ABBREV, and DESCRIPTION. The rows are labeled: 1, 1, D1013, NODE-NUM, PROC REL NODE NUMBER and 2, 2, D1045, ACCT-TP, ACCOUNT TYPE. Callouts 132, 134, 136, 138, and 139 point to the SEQ, BRK LVL, ELEM-ID, ABBREV, and DESCRIPTION columns respectively.

<u>SEQ</u>	<u>BRK LVL</u>	<u>ELEM-ID</u>	<u>ABBREV</u>	<u>DESCRIPTION</u>
1	1	D1013	NODE-NUM	PROC REL NODE NUMBER
2	2	D1045	ACCT-TP	ACCOUNT TYPE

130

FIG. B-9



002201 9406360

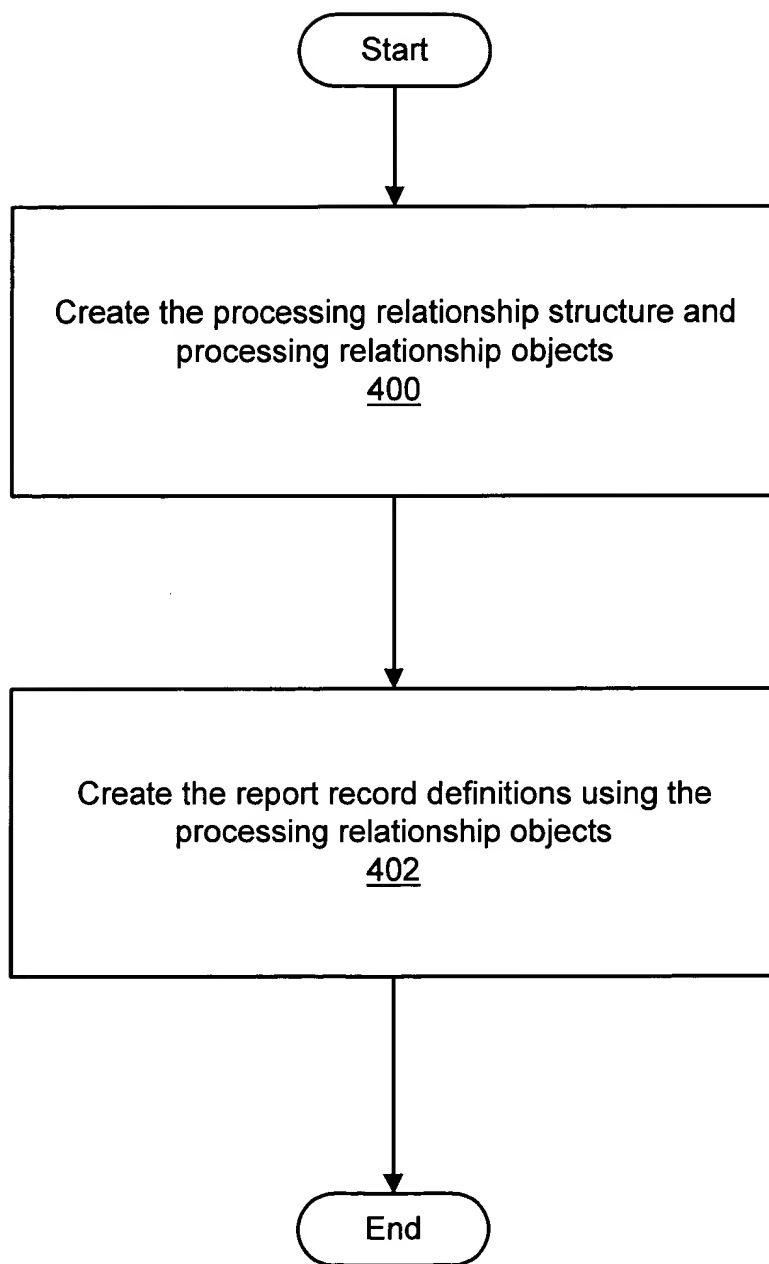


FIG. B-10a

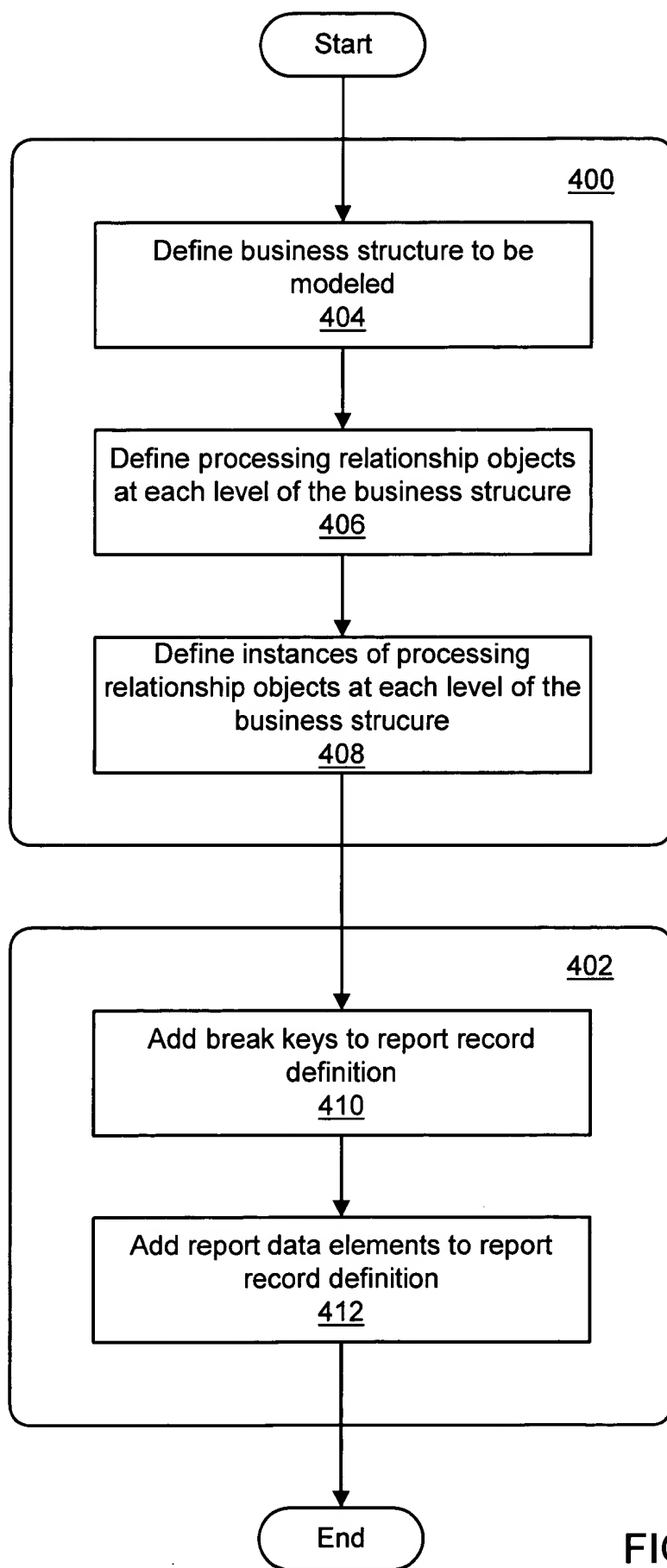


FIG. B-10b

**SECRET**



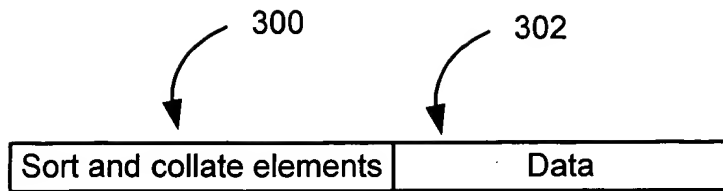


FIG. B-11a

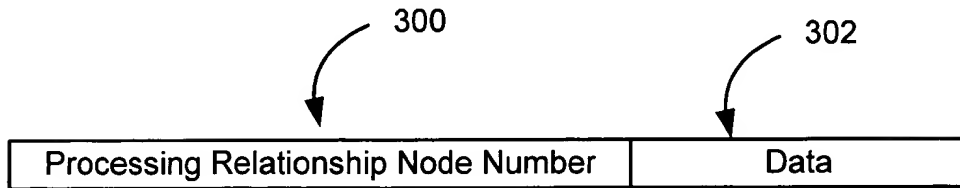


FIG. B-11b

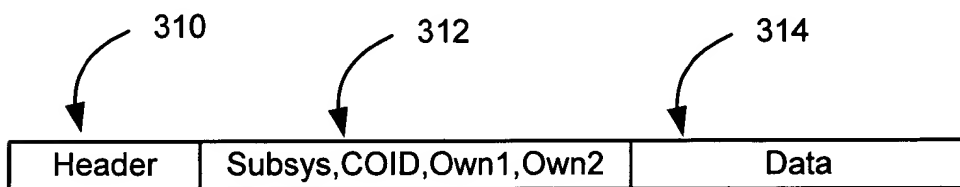


FIG. B-11c

310 312 314 304

Header	10,1,10,200	Data
Header	10,1,10,100	Data
Header	10,1,10,100	Data
Header	10,1,20,100	Data
Header	10,2,10,300	Data
Header	10,1,10,200	Data
Header	20,1,10,100	Data
Header	10,1,10,100	Data

FIG. B-11d

310 312 314

Header	10,1,10,100	Data
Header	10,1,10,100	Data
Header	10,1,10,100	Data
Header	10,1,10,200	Data
Header	10,1,10,200	Data
Header	10,1,20,100	Data
Header	10,2,10,300	Data
Header	20,1,10,100	Data

FIG. B-11e

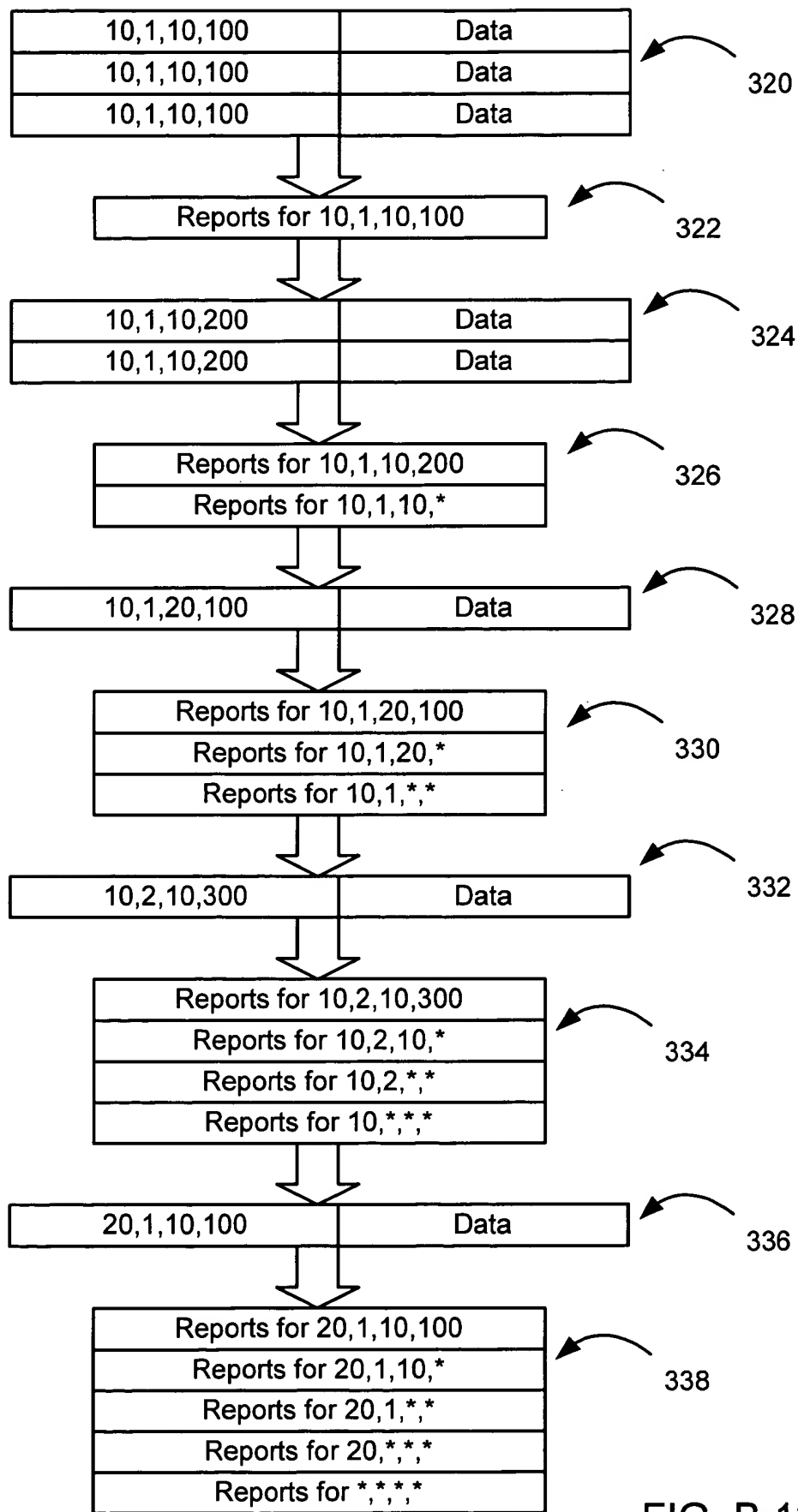
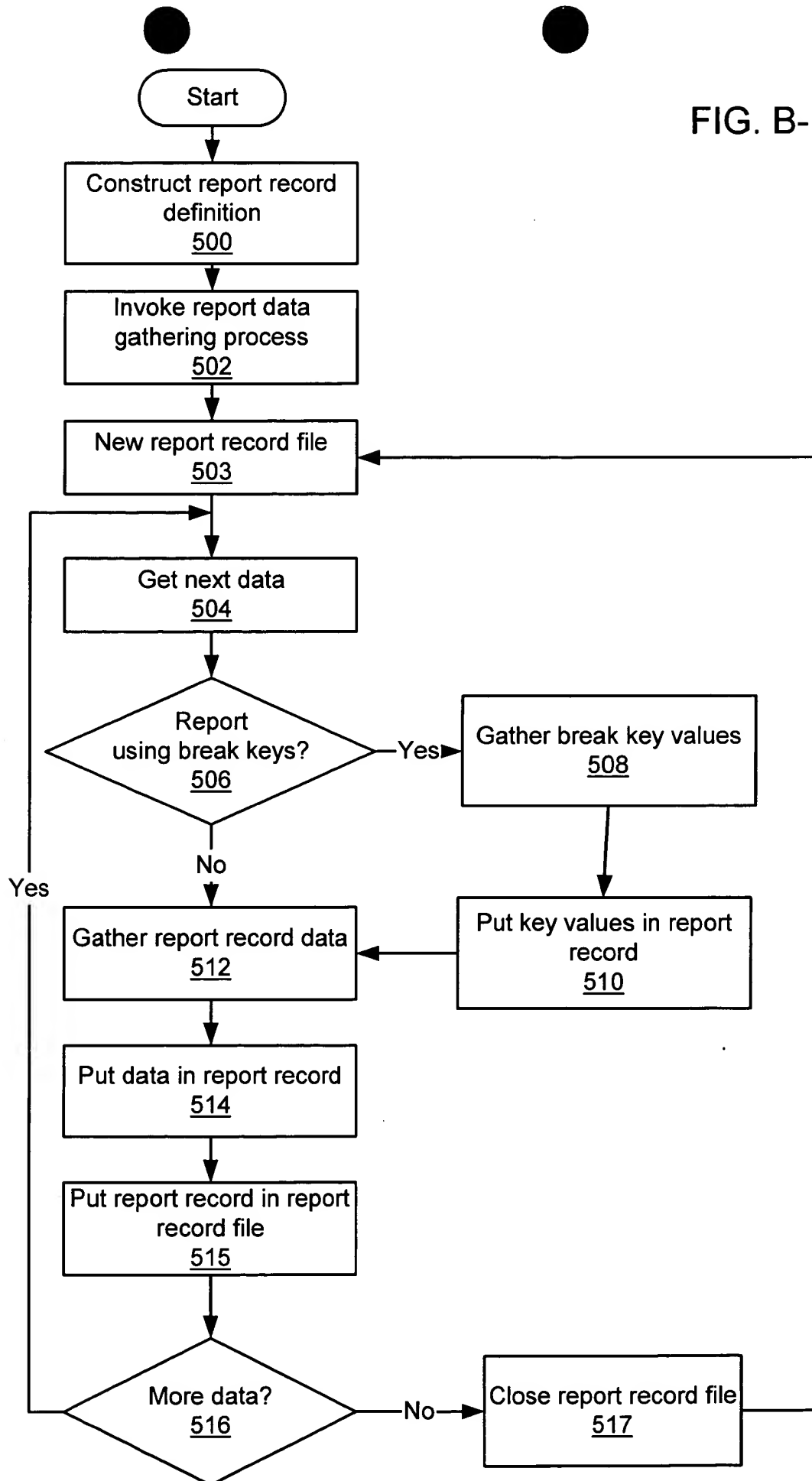
[illegible]

FIG. B-13a



2025-05-27 14:56:56

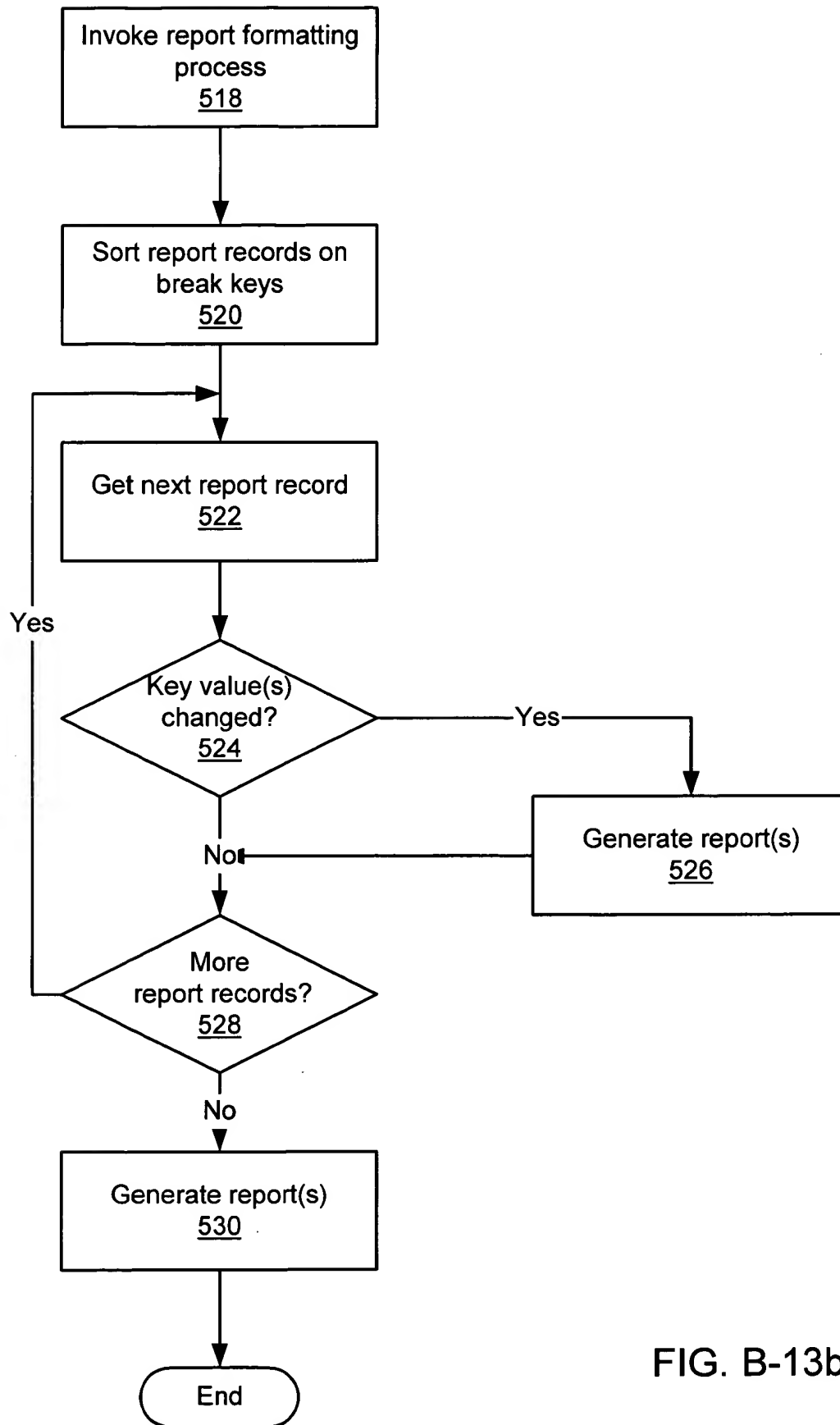


FIG. B-13b

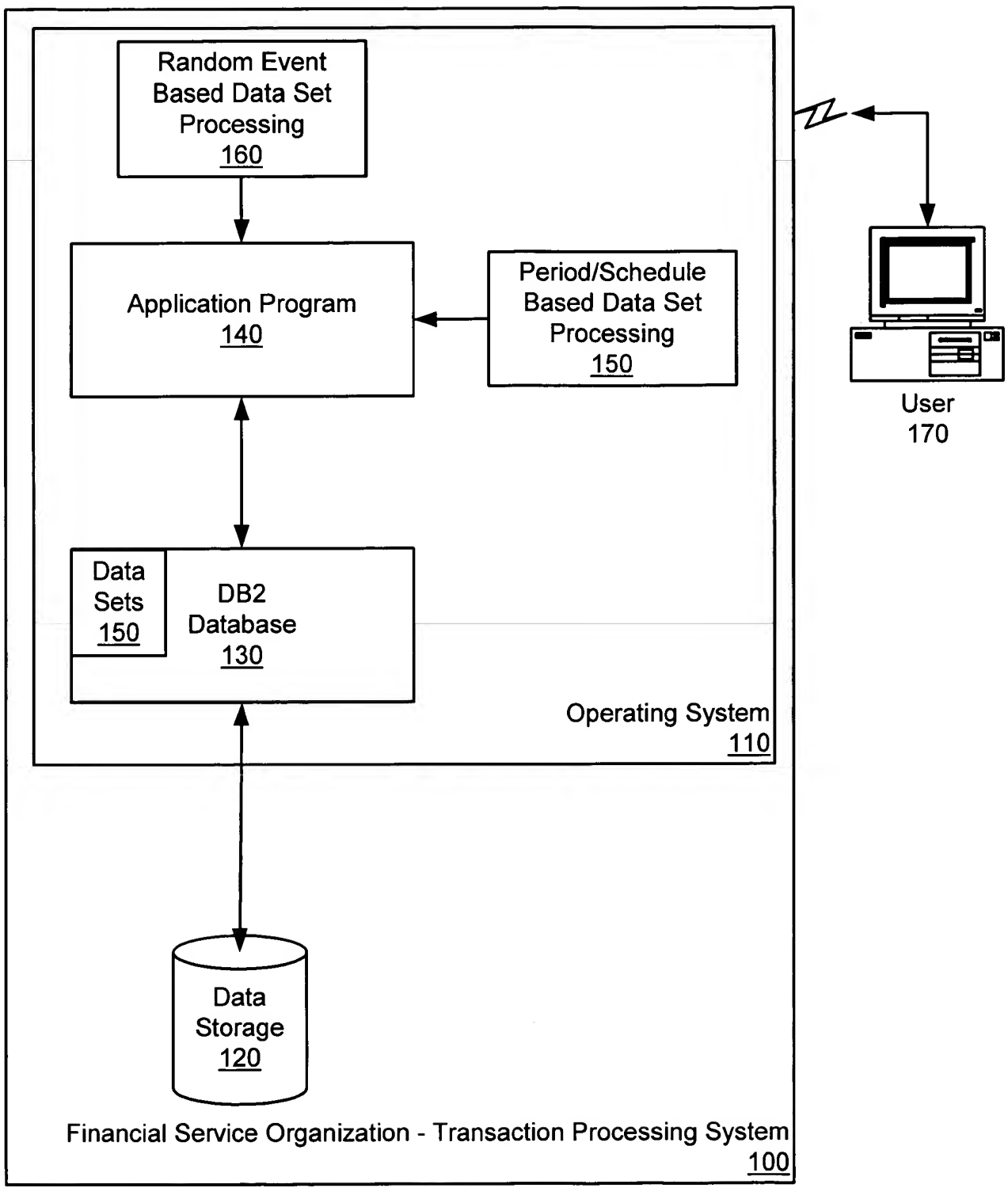
12	10,1,10,100
2	10,1,10,200
3	10,1,20,100
9	10,2,10,300
6	20,1,10,100

FIG. B-14

00207 5406560



US 2002/0156560 A1



Prior Art  
Figure C-1

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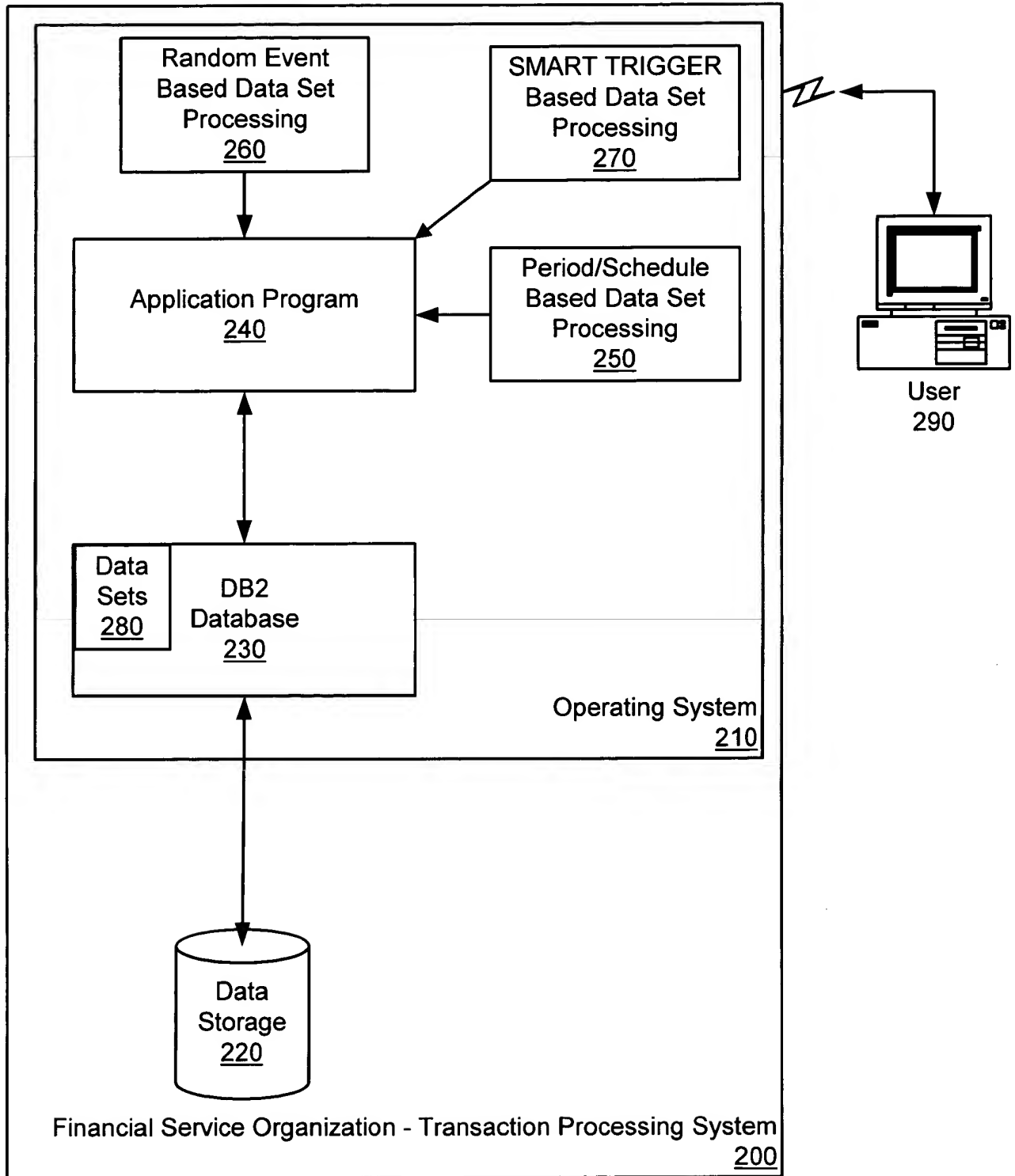


Figure C-2

002201"5106360

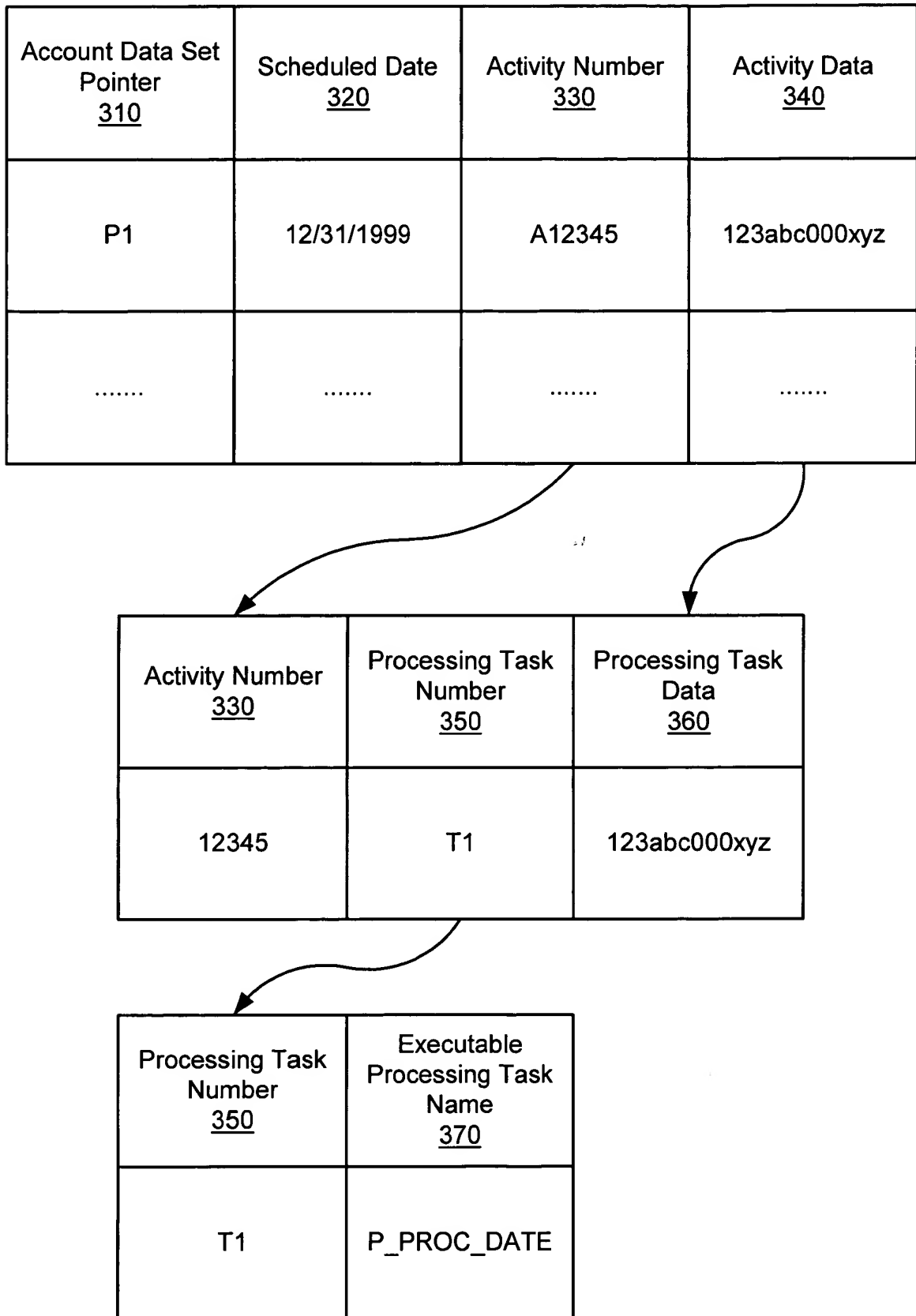


Figure C-3a

**Figure C-3b**

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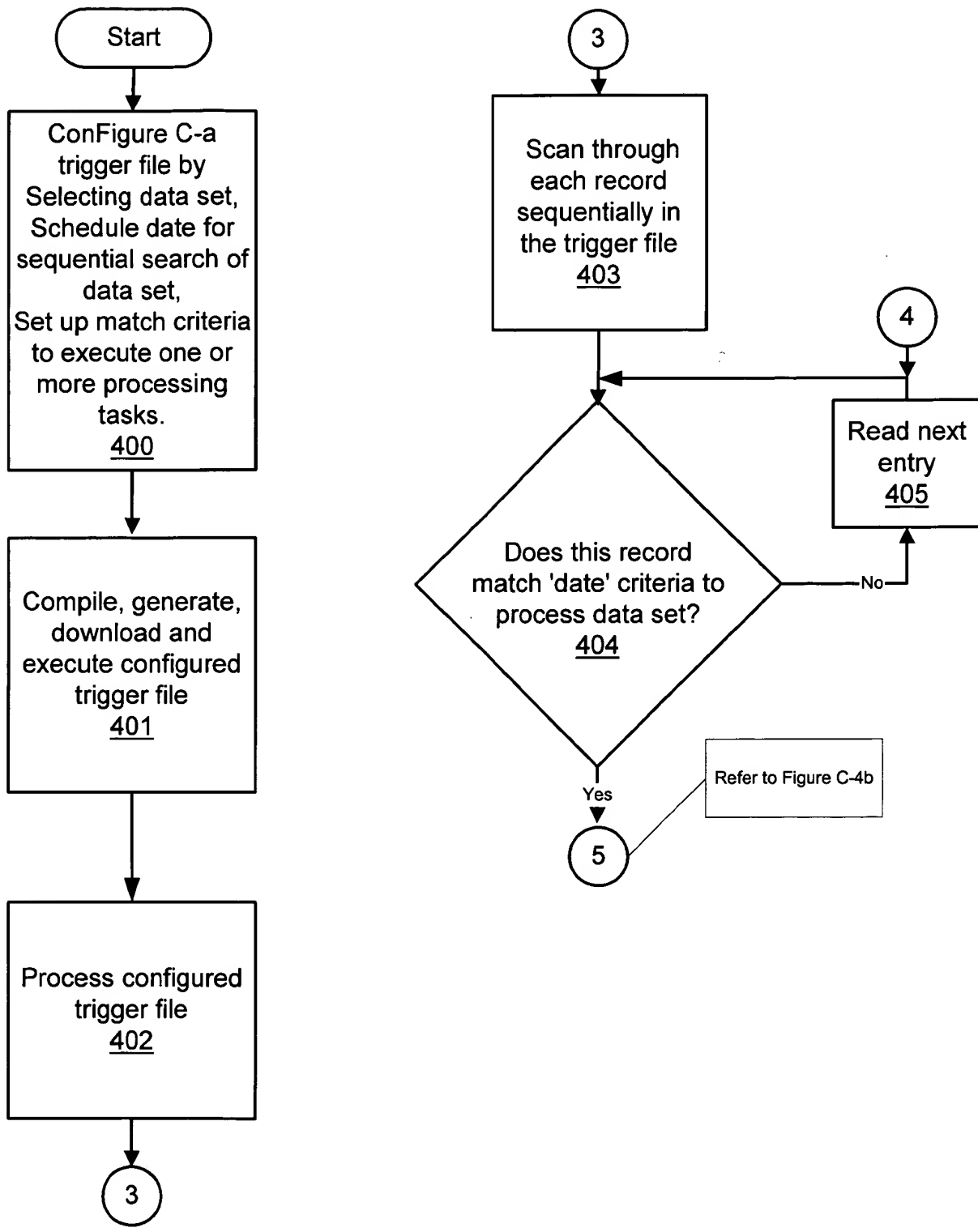
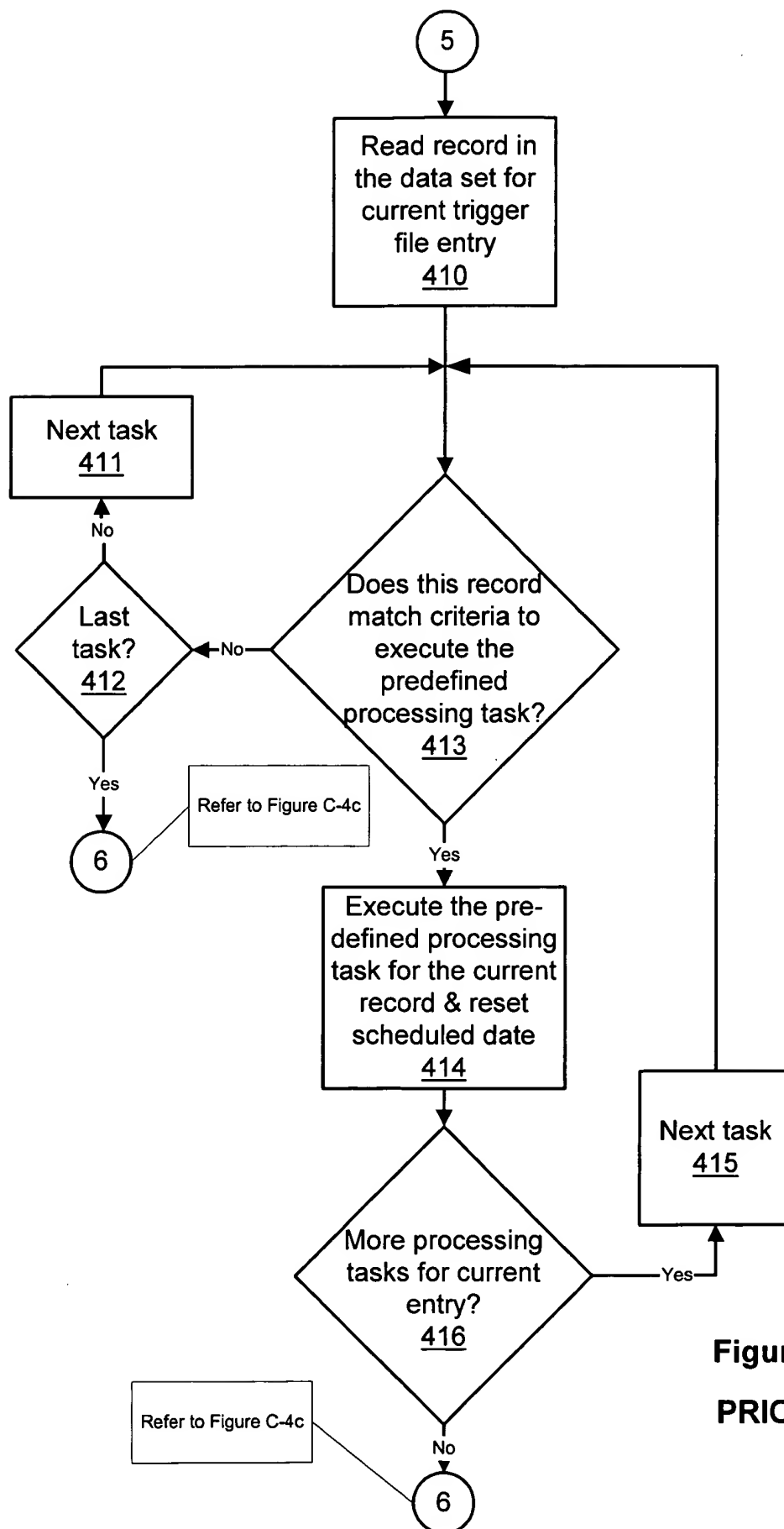


Figure C-4a

PRIOR ART

[illegible]

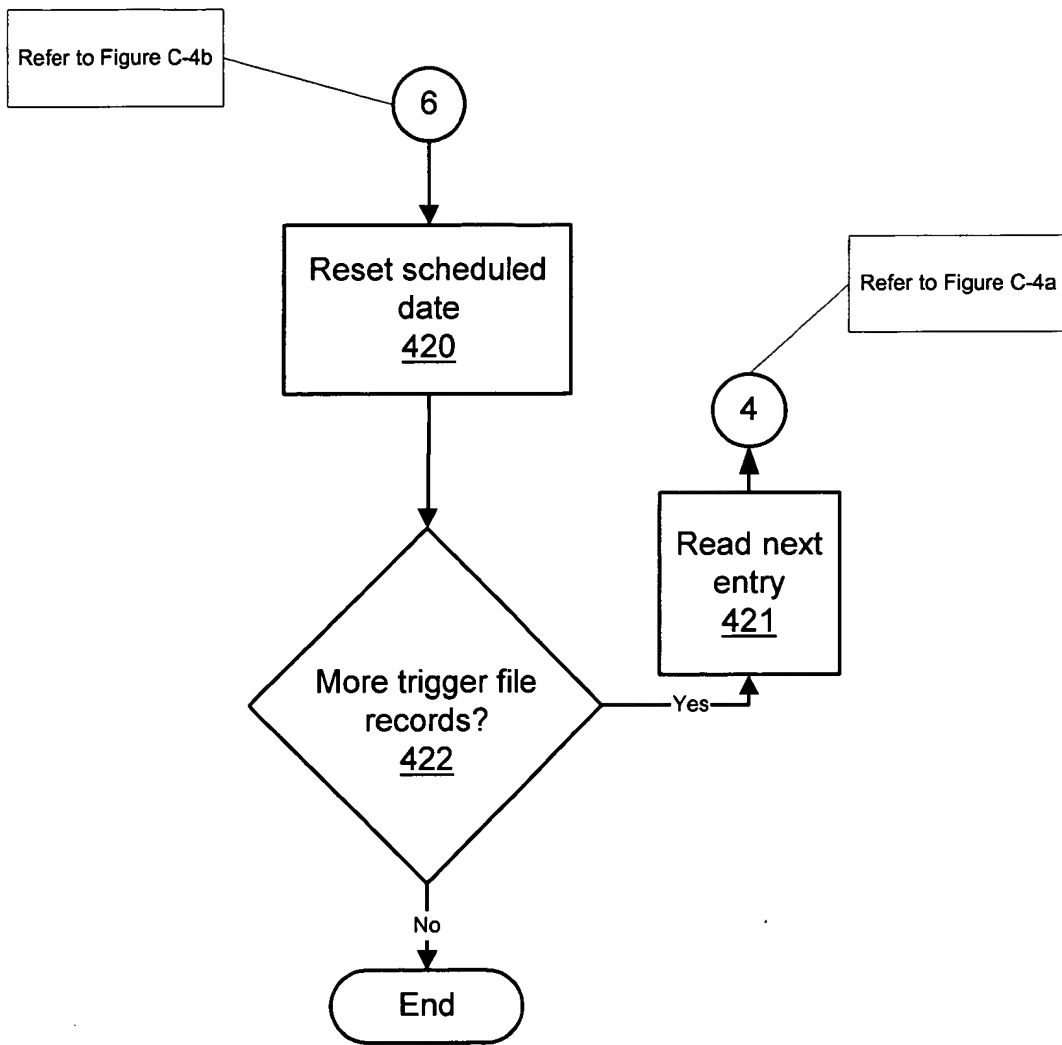


Figure C-4c

PRIOR ART

002001 9406300

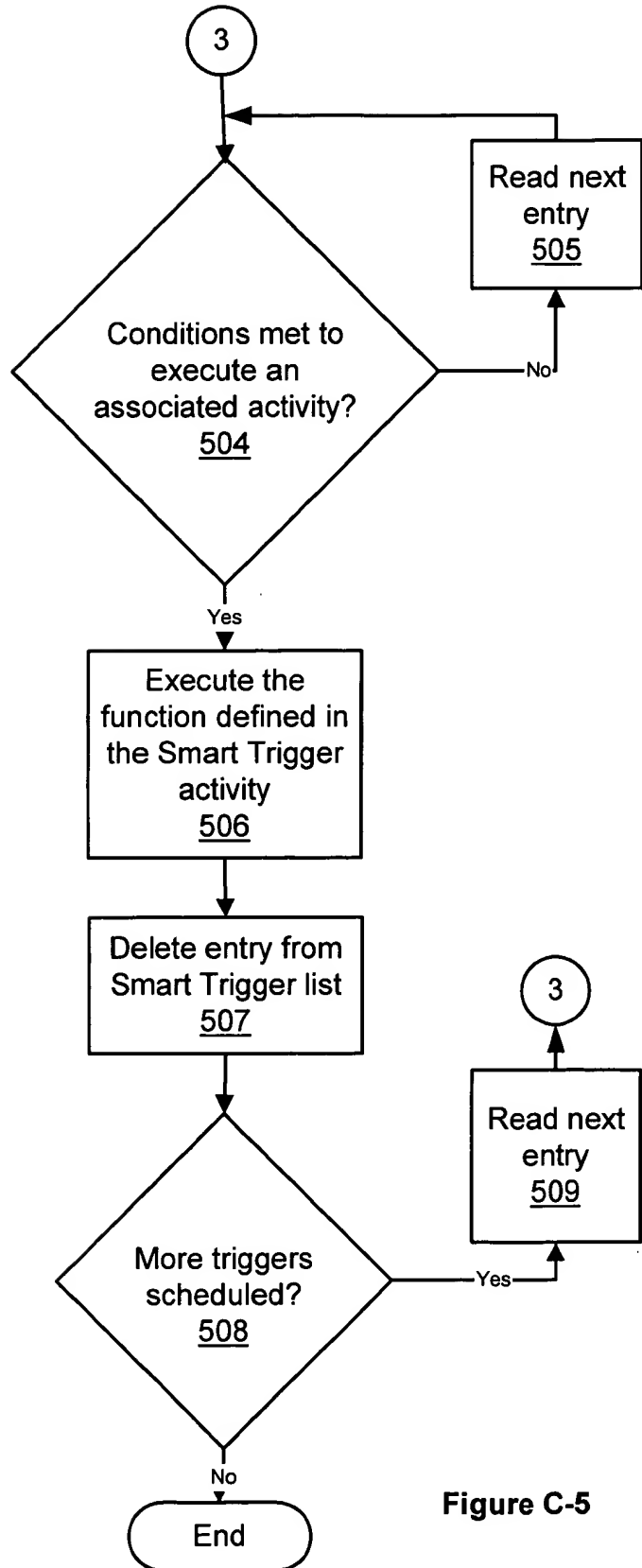
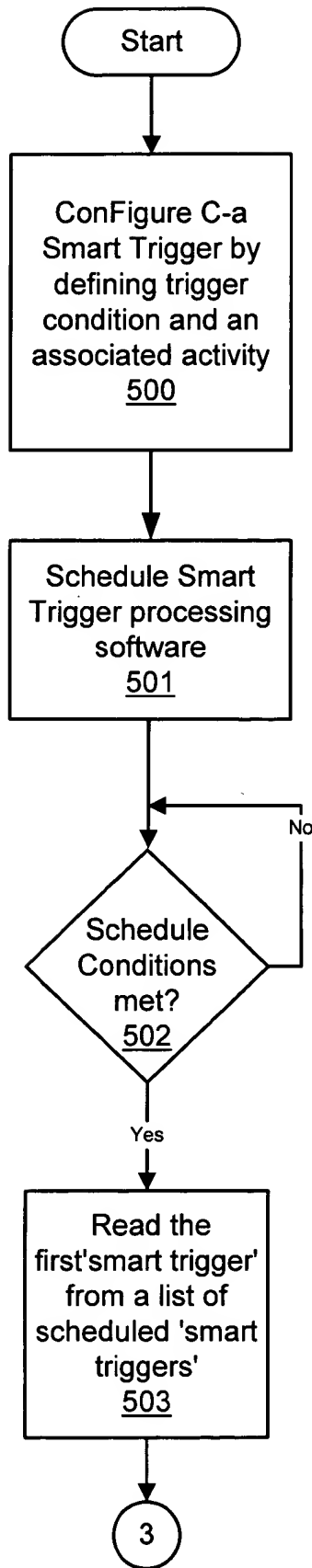


Figure C-5



Data Set Record Pointer <u>600</u>	Data Set Record Data Column 1 <u>610</u>	Data Set Record Data Column N <u>620</u>	List of Processing Tasks <u>630</u>
P1	R11	R1N	T1 .... TN
....	.....	.....	.....
PN	RN1	RNN	T1 .... TN

Current Data Set Record Pointer <u>640</u>	Current Processing Task <u>650</u>	Next Processing Task <u>660</u>
P1	T3	T4
.....	T5	T6
PN	T(N-1)	TN

**Figure C-6**  
**PRIOR ART**

002201" 5106360

00200F 5406300

Current Data Set Record Pointer <u>700</u>	Processing Task Number <u>710</u>
P2	T1
P5	T1
PN	T1

Current Data Set Record Pointer	Processing Task Number
P1	T2
P3	T2
PN	T2

Current Data Set Record Pointer	Processing Task Number
P7	T(N-1)
P11	T(N-1)
PN	T(N-1)

Current Data Set Record Pointer	Processing Task Number
P4	TN
P9	TN
PN	TN

Figure C-7

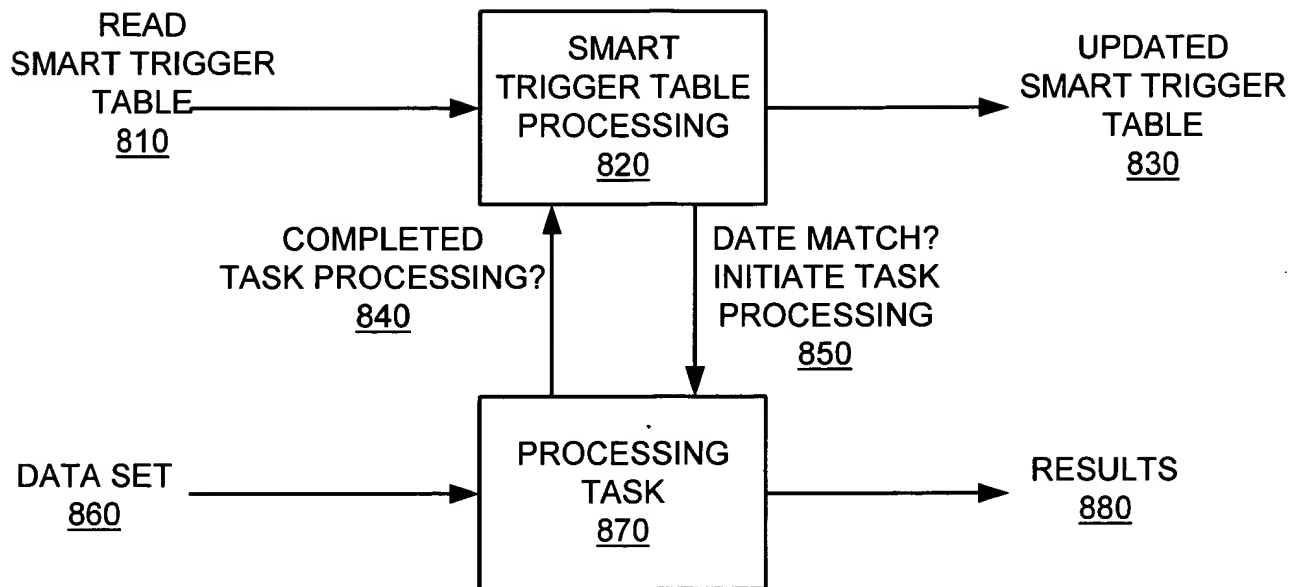


Figure C-8

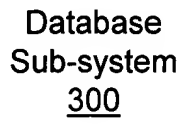
002207"510636

[illegible]



[illegible]

**Figure D- 2a**



Database  
Database  
#1-1 of  
1-N  
320

Database  
Database  
#1-2 of  
1-N

Database  
Database  
#1-N of  
1-N

## Prior Art

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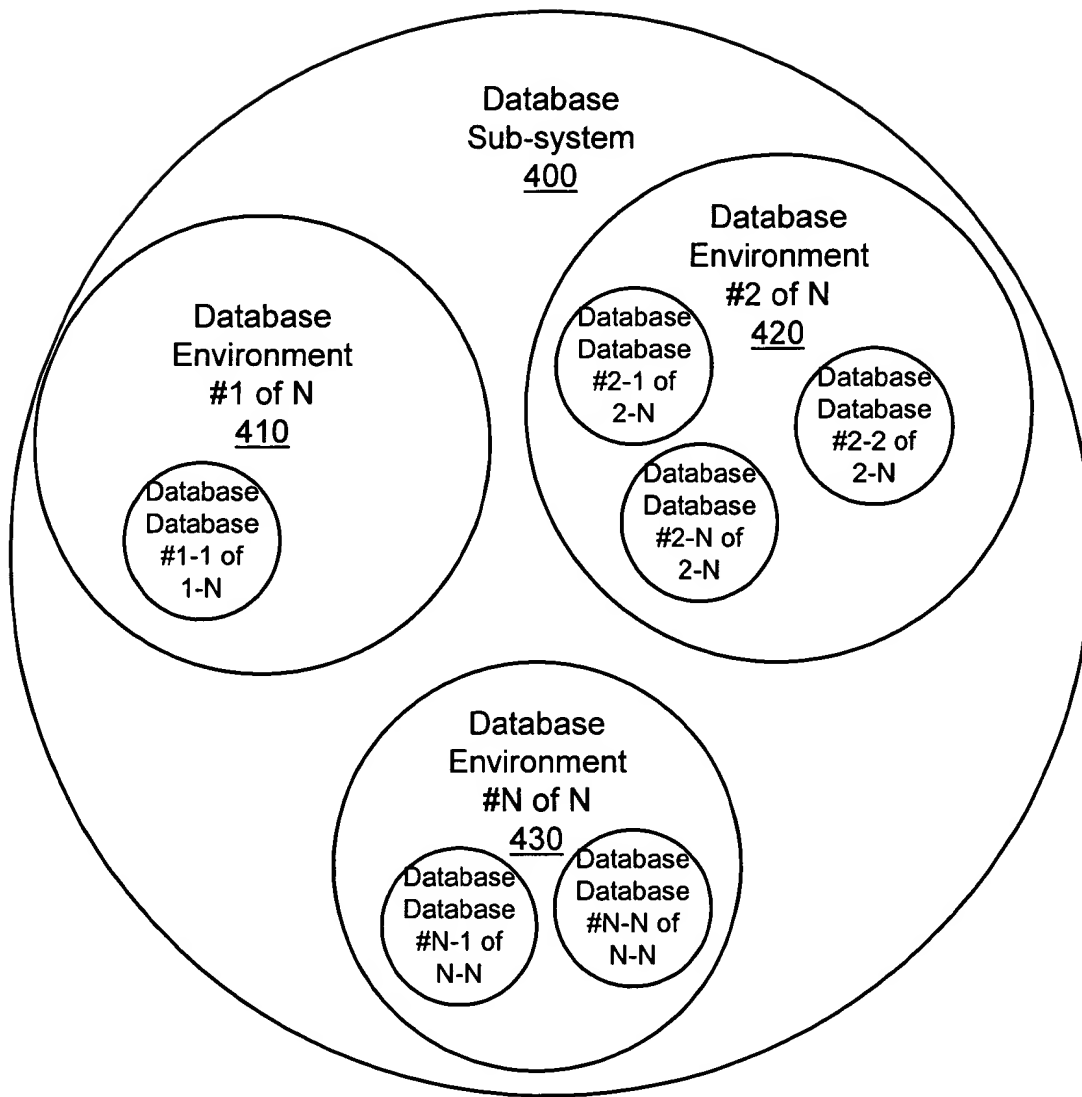
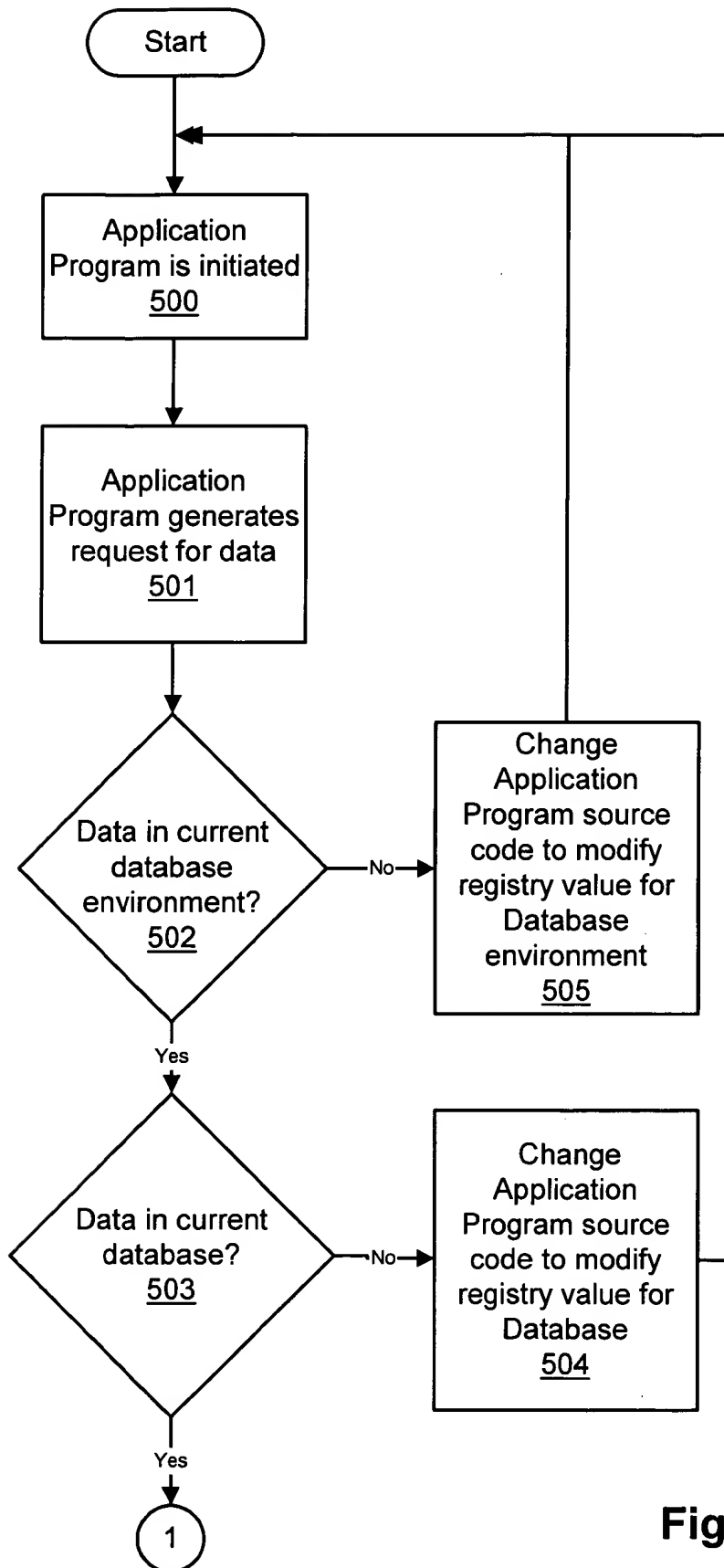


Figure D- 4



$$\begin{array}{l} \{x^{\alpha_1}, \dots, x^{\alpha_n}\} \\ \{y^{\beta_1}, \dots, y^{\beta_m}\} \\ \{z^{\gamma_1}, \dots, z^{\gamma_p}\} \\ \{w^{\delta_1}, \dots, w^{\delta_q}\} \\ \{v^{\epsilon_1}, \dots, v^{\epsilon_r}\} \\ \{u^{\zeta_1}, \dots, u^{\zeta_s}\} \\ \{t^{\eta_1}, \dots, t^{\eta_t}\} \\ \{s^{\theta_1}, \dots, s^{\theta_u}\} \\ \{r^{\iota_1}, \dots, r^{\iota_v}\} \\ \{q^{\kappa_1}, \dots, q^{\kappa_w}\} \\ \{p^{\lambda_1}, \dots, p^{\lambda_x}\} \\ \{o^{\mu_1}, \dots, o^{\mu_y}\} \\ \{n^{\nu_1}, \dots, n^{\nu_z}\} \\ \{m^{\xi_1}, \dots, m^{\xi_{\ell}}\} \\ \{l^{\eta_1}, \dots, l^{\eta_{\ell}}\} \\ \{k^{\theta_1}, \dots, k^{\theta_{\ell}}\} \\ \{j^{\iota_1}, \dots, j^{\iota_{\ell}}\} \\ \{i^{\kappa_1}, \dots, i^{\kappa_{\ell}}\} \\ \{h^{\lambda_1}, \dots, h^{\lambda_{\ell}}\} \\ \{g^{\mu_1}, \dots, g^{\mu_{\ell}}\} \\ \{f^{\nu_1}, \dots, f^{\nu_{\ell}}\} \\ \{e^{\xi_1}, \dots, e^{\xi_{\ell}}\} \\ \{d^{\eta_1}, \dots, d^{\eta_{\ell}}\} \\ \{c^{\theta_1}, \dots, c^{\theta_{\ell}}\} \\ \{b^{\iota_1}, \dots, b^{\iota_{\ell}}\} \\ \{a^{\kappa_1}, \dots, a^{\kappa_{\ell}}\} \\ \{z^{\lambda_1}, \dots, z^{\lambda_{\ell}}\} \\ \{y^{\mu_1}, \dots, y^{\mu_{\ell}}\} \\ \{x^{\nu_1}, \dots, x^{\nu_{\ell}}\} \\ \{w^{\xi_1}, \dots, w^{\xi_{\ell}}\} \\ \{v^{\eta_1}, \dots, v^{\eta_{\ell}}\} \\ \{u^{\theta_1}, \dots, u^{\theta_{\ell}}\} \\ \{t^{\iota_1}, \dots, t^{\iota_{\ell}}\} \\ \{s^{\kappa_1}, \dots, s^{\kappa_{\ell}}\} \\ \{r^{\lambda_1}, \dots, r^{\lambda_{\ell}}\} \\ \{q^{\mu_1}, \dots, q^{\mu_{\ell}}\} \\ \{p^{\nu_1}, \dots, p^{\nu_{\ell}}\} \\ \{o^{\xi_1}, \dots, o^{\xi_{\ell}}\} \\ \{n^{\eta_1}, \dots, n^{\eta_{\ell}}\} \\ \{m^{\theta_1}, \dots, m^{\theta_{\ell}}\} \\ \{l^{\iota_1}, \dots, l^{\iota_{\ell}}\} \\ \{k^{\kappa_1}, \dots, k^{\kappa_{\ell}}\} \\ \{j^{\lambda_1}, \dots, j^{\lambda_{\ell}}\} \\ \{i^{\mu_1}, \dots, i^{\mu_{\ell}}\} \\ \{h^{\nu_1}, \dots, h^{\nu_{\ell}}\} \\ \{g^{\xi_1}, \dots, g^{\xi_{\ell}}\} \\ \{f^{\eta_1}, \dots, f^{\eta_{\ell}}\} \\ \{e^{\theta_1}, \dots, e^{\theta_{\ell}}\} \\ \{d^{\iota_1}, \dots, d^{\iota_{\ell}}\} \\ \{c^{\kappa_1}, \dots, c^{\kappa_{\ell}}\} \\ \{b^{\lambda_1}, \dots, b^{\lambda_{\ell}}\} \\ \{a^{\mu_1}, \dots, a^{\mu_{\ell}}\} \end{array}$$


### Figure D- 5

## Prior Art

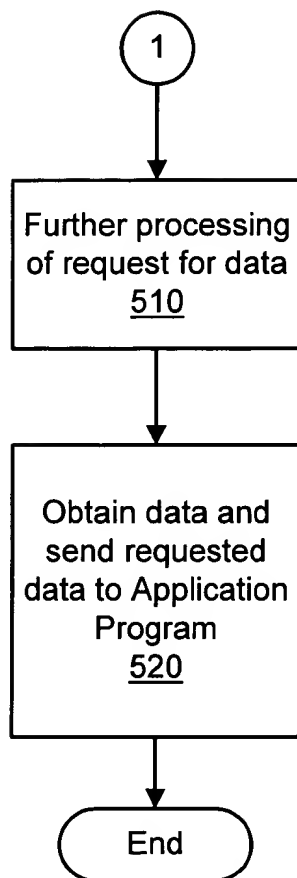
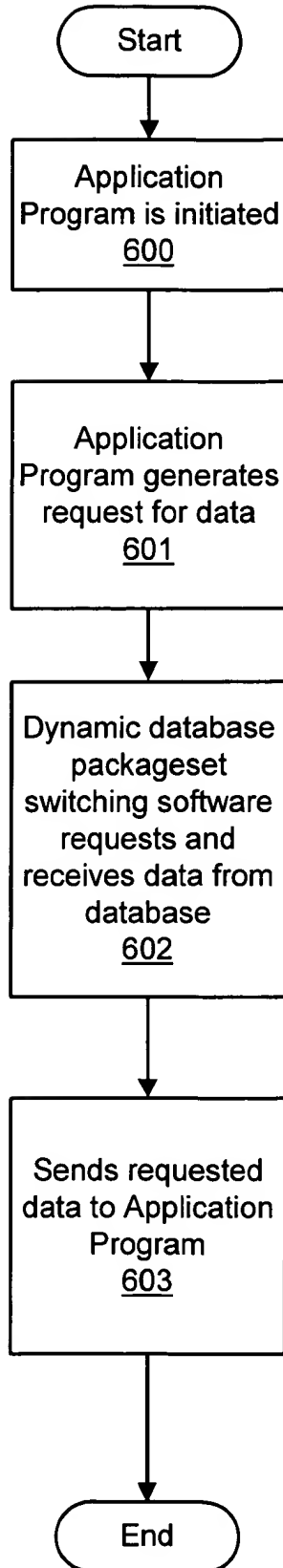
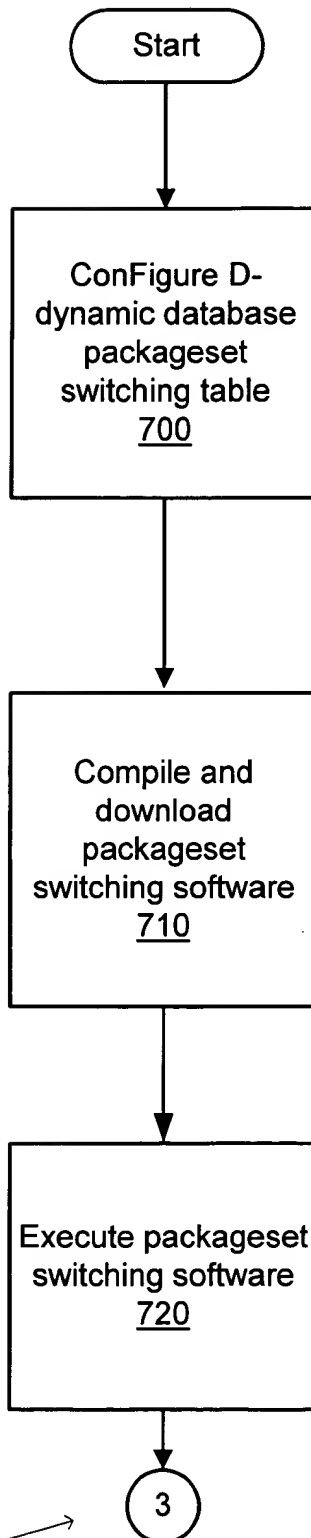


Figure D- 5a

[illegible]

### Figure D- 6



Refer to Figure D-7b

### Figure D- 7a

Detail of 602  
Figure D- 6

From Figure D- 7a

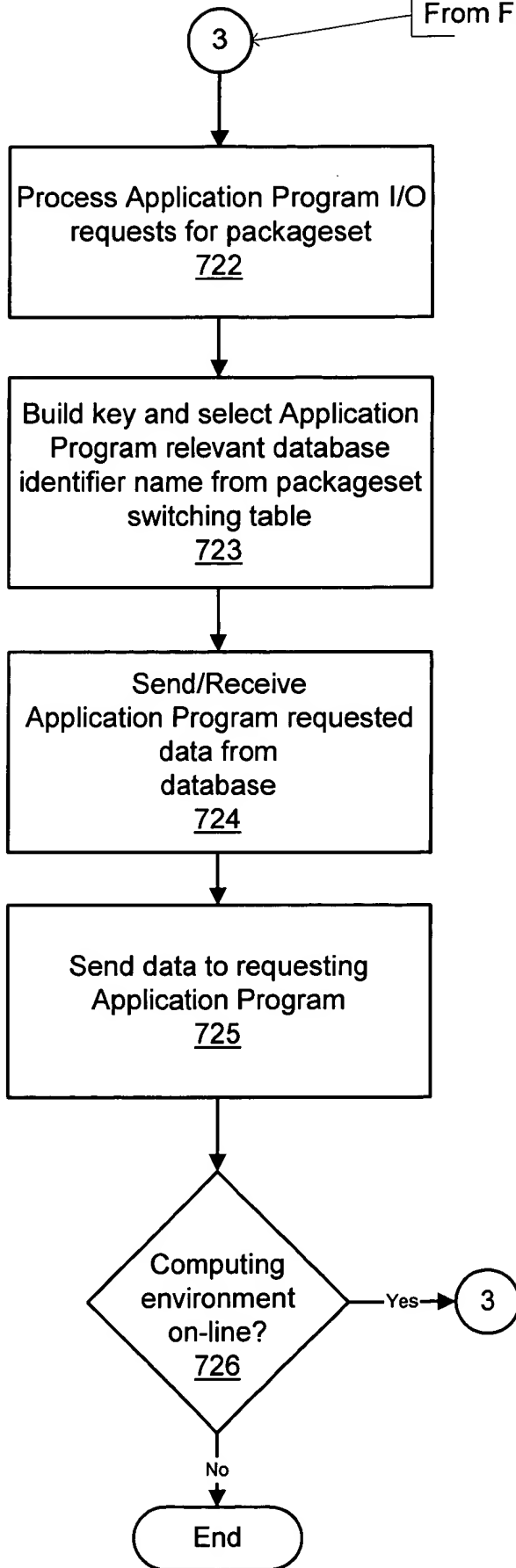


Figure D- 7b

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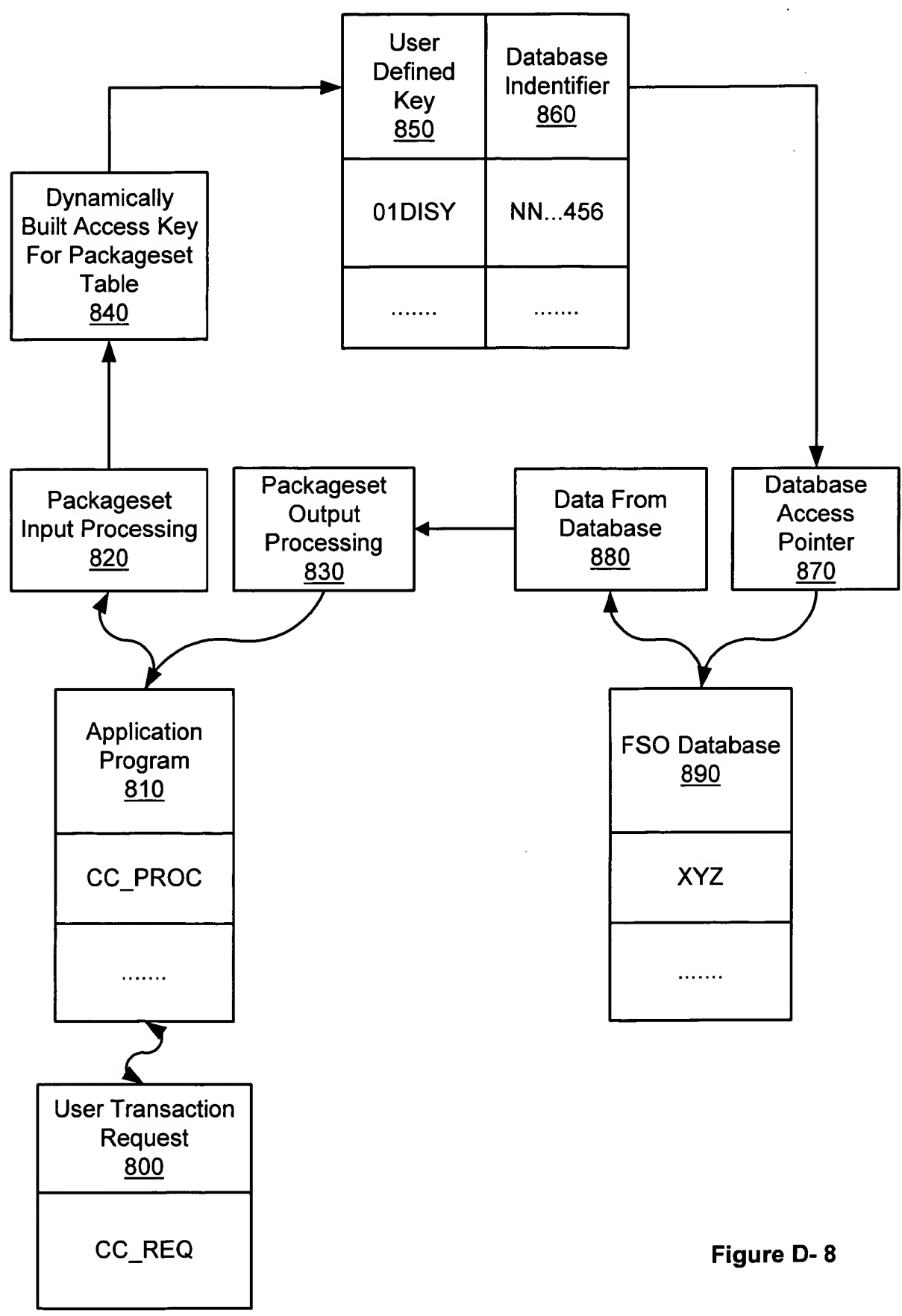
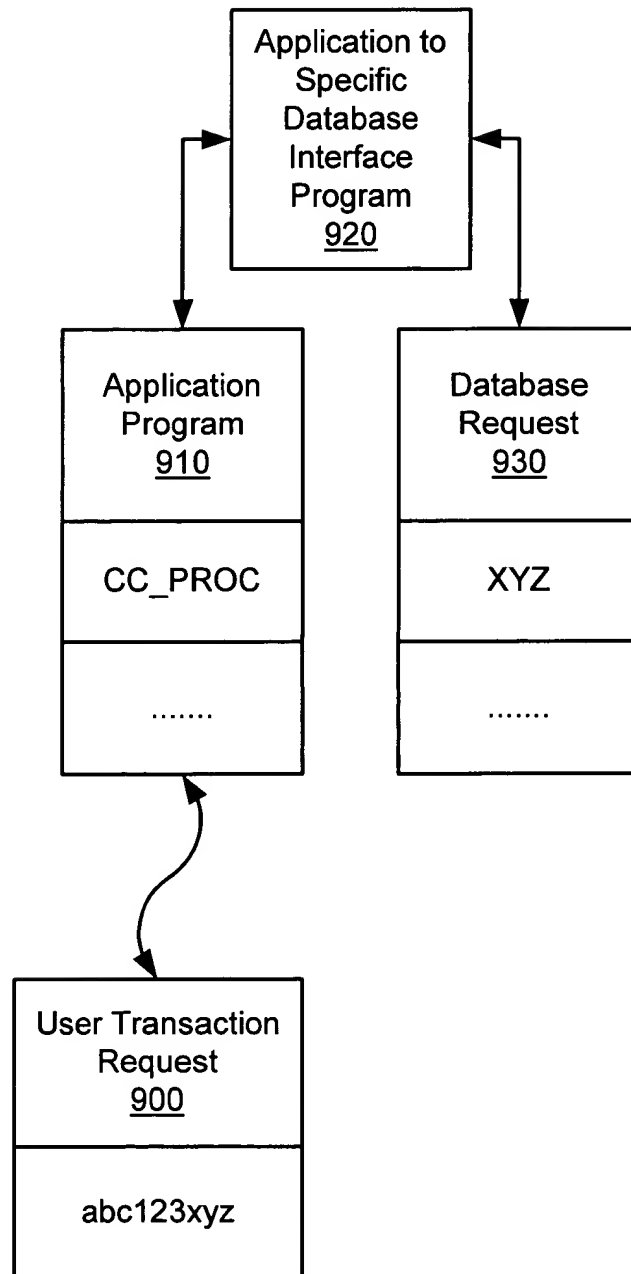


Figure D- 8



## PRIOR ART

### Figure D- 9

122	124	120
<u>DICTIONARY ELEMENTS</u>	<u>USEABLE IN KEYS?</u>	
A	NO	
B	NO	
C	NO	
D	NO	
E	NO	
F	NO	
G	NO	
H	NO	
I	NO	
J	NO	
K	NO	
L	NO	
M	NO	
N	YES	
O	YES	
P	YES	
Q	YES	
R	YES	
S	YES	
T	YES	
U	YES	
V	YES	
W	YES	
X	YES	
Y	YES	
Z	YES	

### Figure D- 10



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132

134

130

<u>AVAILABLE KEY ELEMENTS</u>	<u>USEABLE IN KEY?</u>
N	NO
O	NO
P	NO
Q	NO
R	NO
S	NO
T	NO
U	NO
V	YES
W	YES
X	YES
Y	YES
Z	YES

Figure D- 11

142

144

146

140

<u>AVAILABLE KEY ELEMENTS</u>	<u>USE AS KEY FIELD?</u>	<u>SEQUENCE</u>
V	NO	N/A
W	YES	2
X	YES	1
Y	NO	N/A
Z	YES	3

Figure D-  
12

152	154	156	158	160	150
<u>KEY</u> <u>FIELD</u>	<u>FIELD</u> <u>SEQUENCE</u>	<u>ELEMENT</u> <u>NAME</u>	<u>FIELD</u> <u>LENGTH</u>	<u>FIELD</u> <u>TYPE</u>	
X	1	COMPANY ID	2	NUMERIC	
W	2	CREDIT CARD TYPE	3	CHARACTER	
Z	3	ON US/NOT ON US	1	CHARACTER	

Figure D- 13

172	174	178		
<u>ROW</u>	<u>KEY VALUES</u>		<u>PACKAGESET SWITCHING TABLE VALUES</u>	
	<u>X</u>	<u>W</u>	<u>Z</u>	<u>DATABASE IDENTIFIER VALUE</u>
<u>1</u>	12	VIS	Y	NN1234567890123456
<u>2</u>	12	DIS	Y	NN1234567890123457
<u>3</u>	12	*	*	NN1234567890123458
<u>4</u>	12	*	Y	NN1234567890123459
<u>5</u>	14	VIS	N	NN1234567890123460
<u>6</u>	14	DIS	N	NN1234567890123461
<u>7</u>	*	*	*	NN1234567890123462
175	176	177	179	<u>170</u>

Figure D- 14

DocId: 5406960

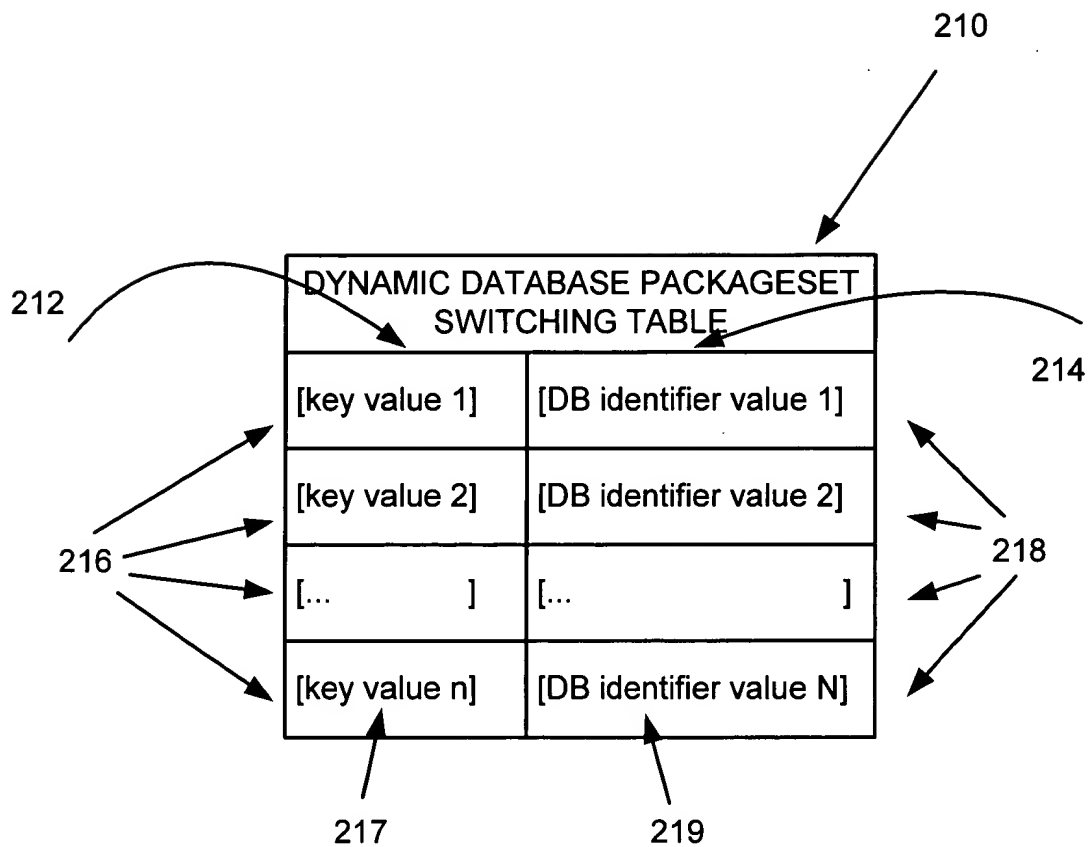
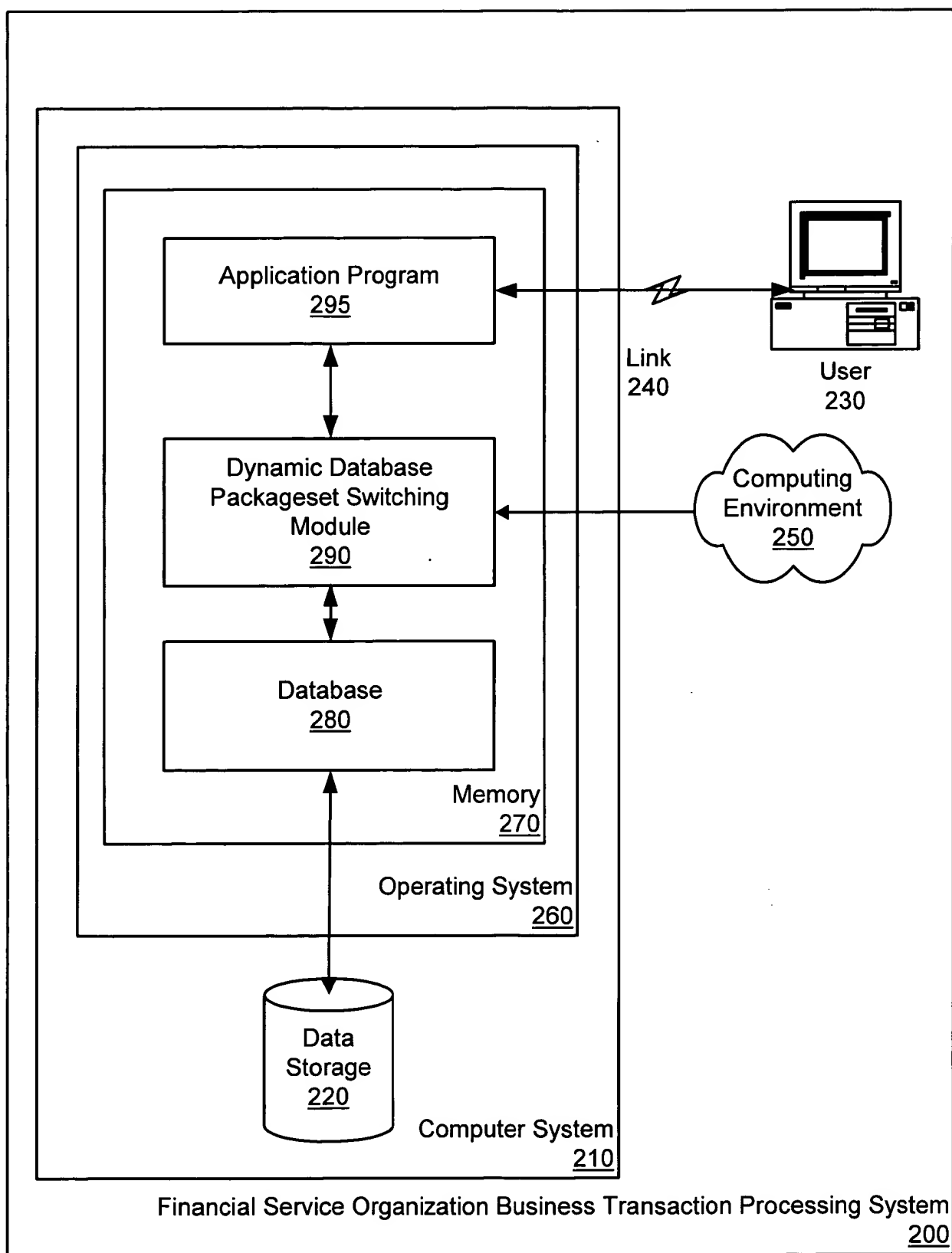


Figure D- 15





### Figure E- 2

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62/97 = 506560

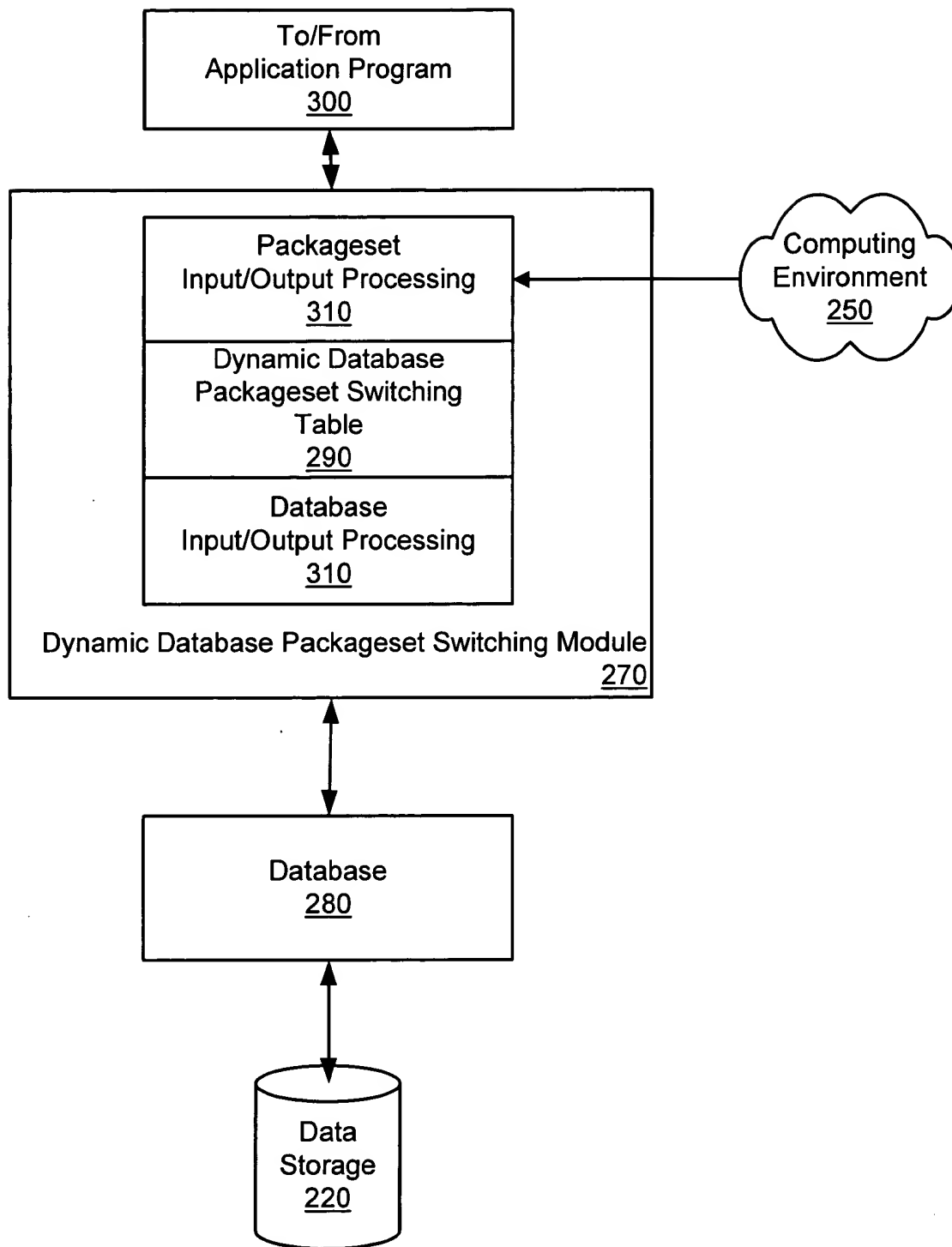
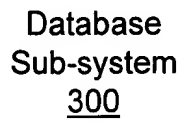


Figure E- 2a

[illegible]

Database  
Database  
#1-1 of  
1-N  
320

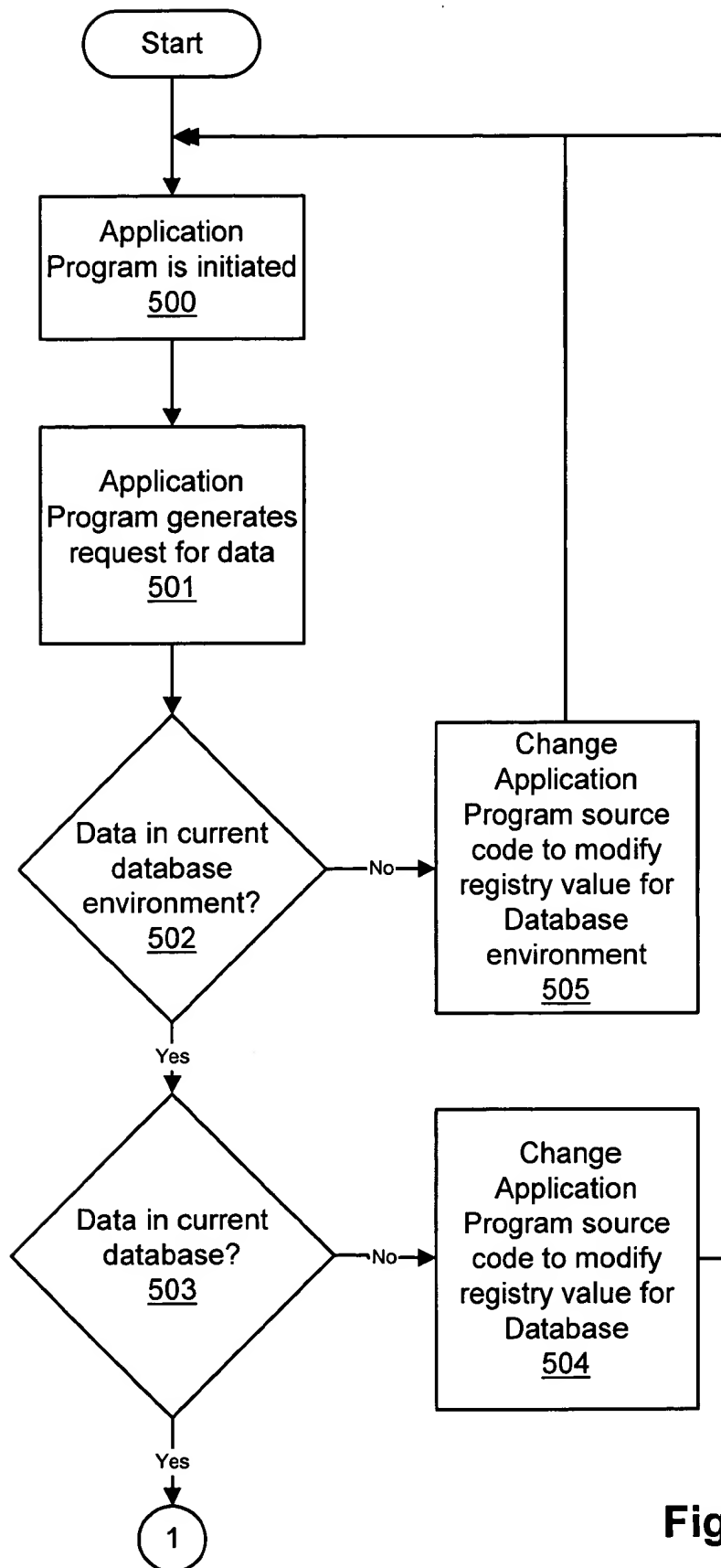
Database  
Database  
#1-2 of  
1-N

Database  
Database  
#1-N of  
1-N

## Prior Art

[illegible]



[illegible]

### Figure E- 5

## Prior Art

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002201 5106360

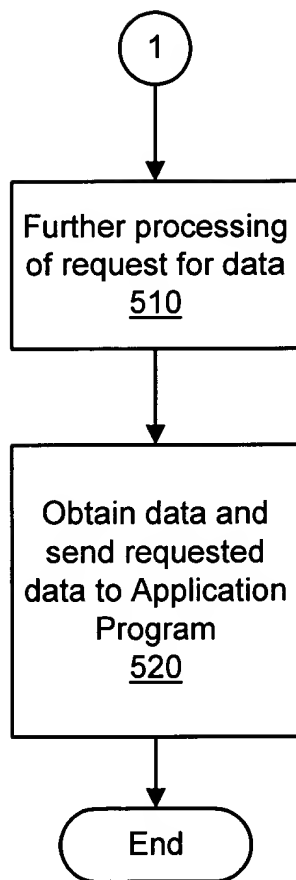


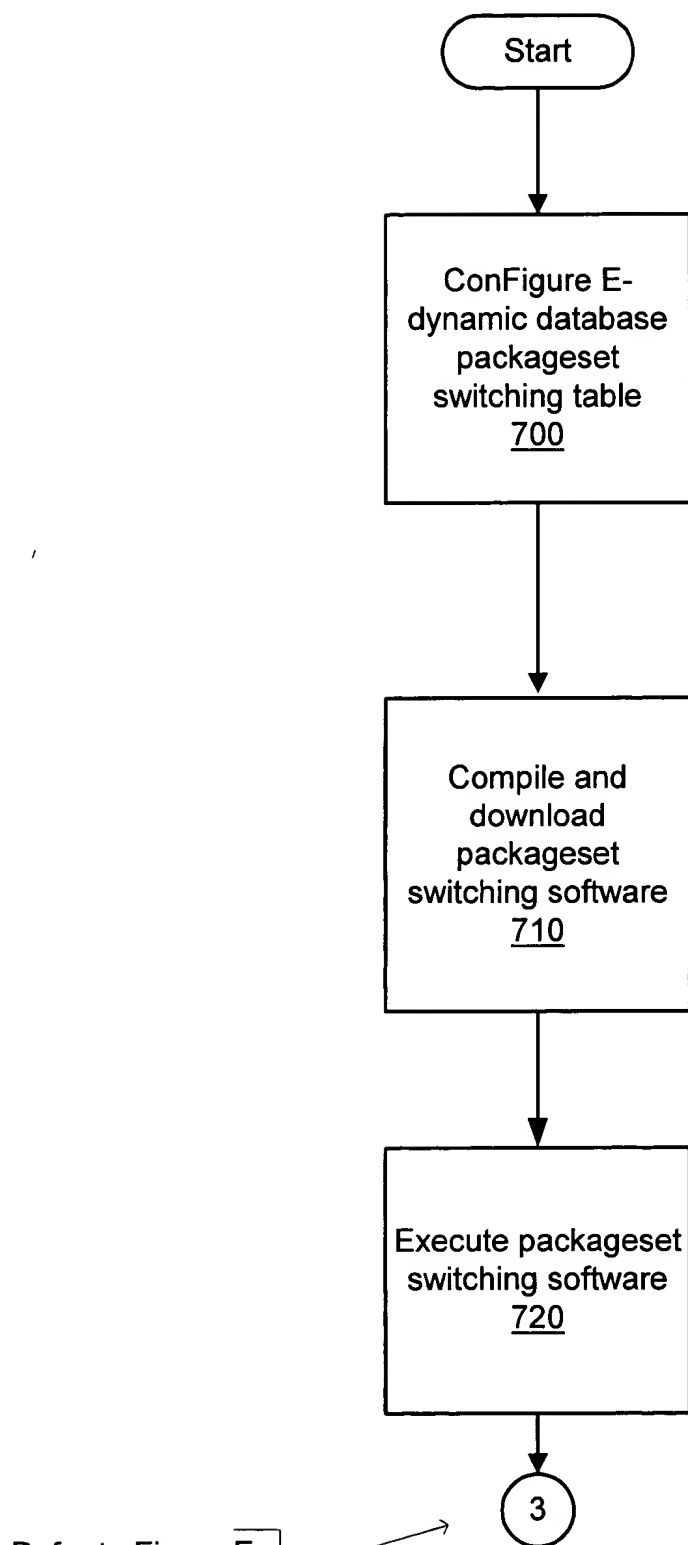
Figure E- 5a

$\left\{ \begin{matrix} f^{(0)}_{n+1}(x) \\ f^{(1)}_{n+1}(x) \\ \vdots \\ f^{(m-1)}_{n+1}(x) \end{matrix} \right\}$



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096045-402700



Refer to Figure E-7b

Figure E- 7a

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Detail of 602  
Figure E- 6

From Figure E- 7a

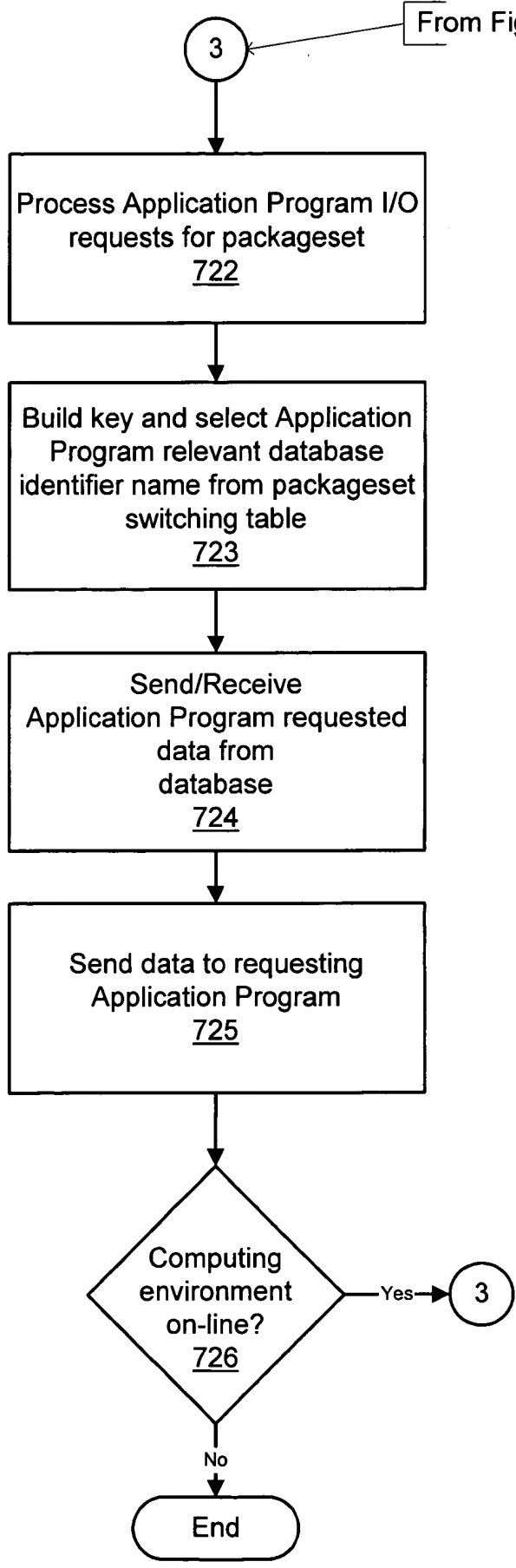
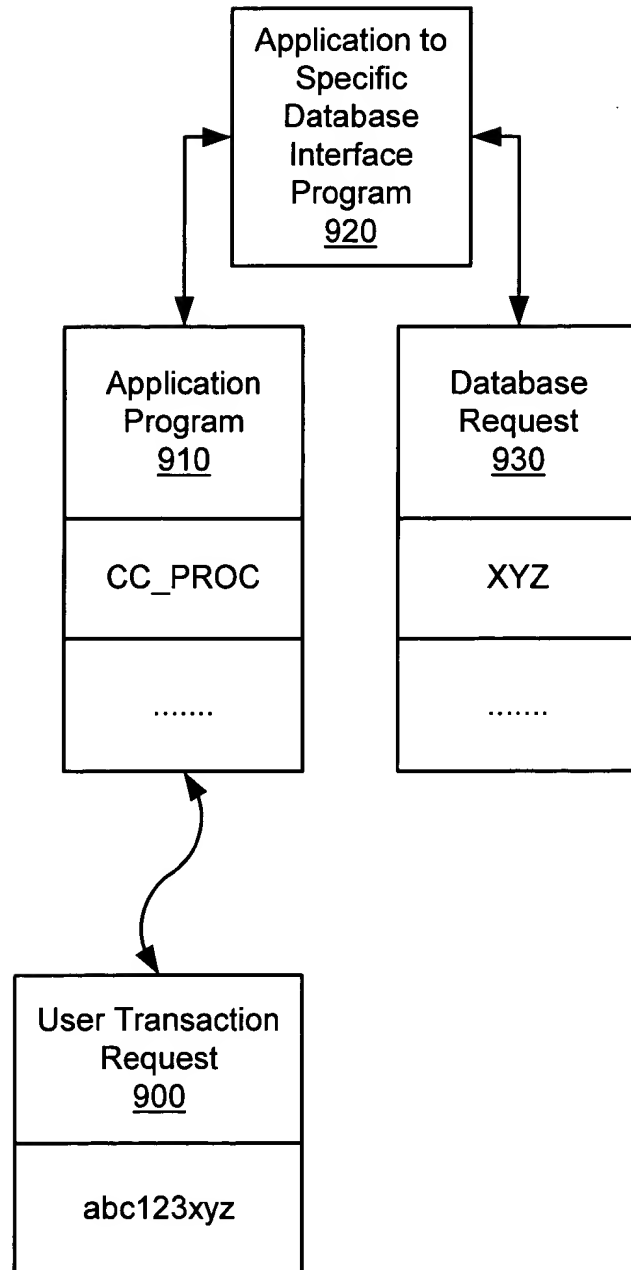


Figure E- 7b

00221" 5706360





### Figure E- 9

122		124	

Figure E- 10



132	134	130
AVAILABLE KEY ELEMENTS	USEABLE IN KEY?	
N	NO	
O	NO	
P	NO	
Q	NO	
R	NO	
S	NO	
T	NO	
U	NO	
V	YES	
W	YES	
X	YES	
Y	YES	
Z	YES	

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152	154	156	158	160	150
<u>KEY</u> <u>FIELD</u>	<u>FIELD</u> <u>SEQUENCE</u>	<u>ELEMENT</u> <u>NAME</u>	<u>FIELD</u> <u>LENGTH</u>	<u>FIELD</u> <u>TYPE</u>	
X	1	COMPANY ID	2	NUMERIC	
W	2	CREDIT CARD TYPE	3	CHARACTER	
Z	3	ON US/NOT ON US	1	CHARACTER	

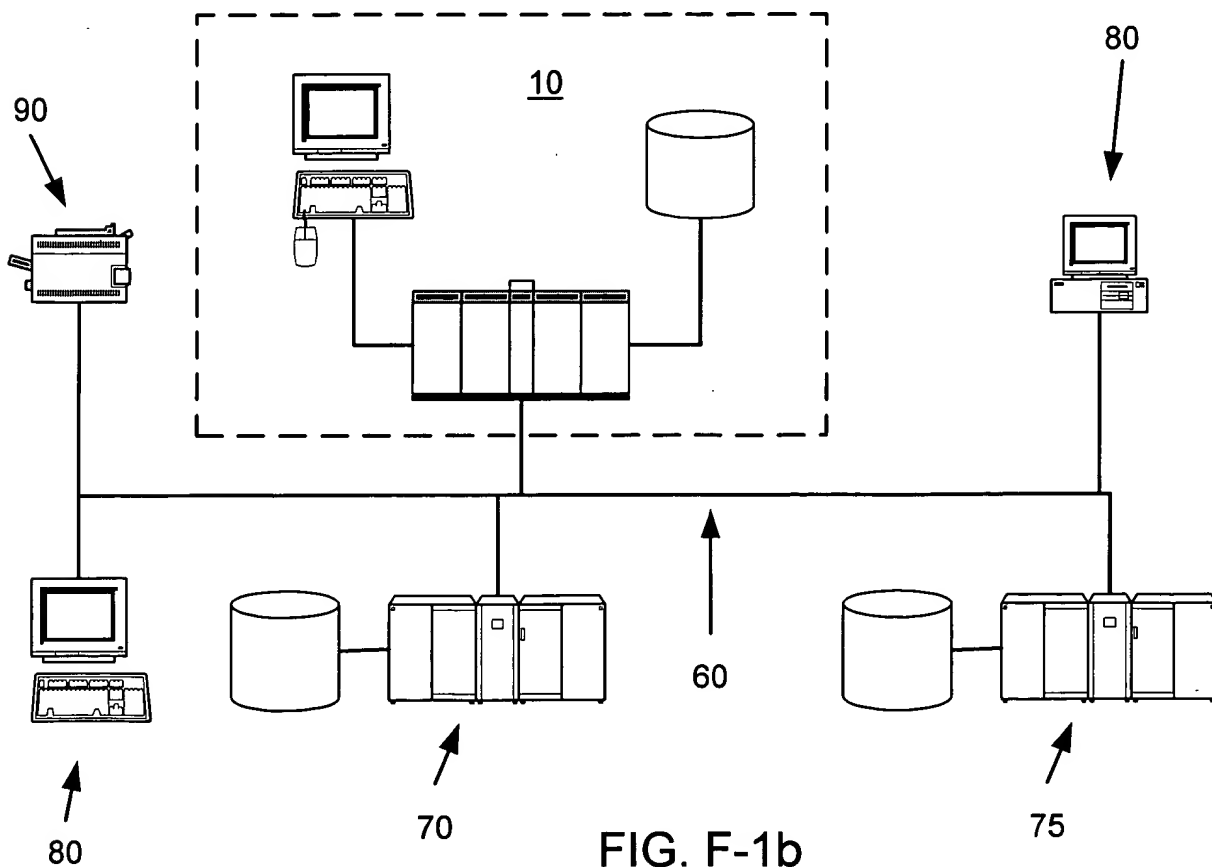
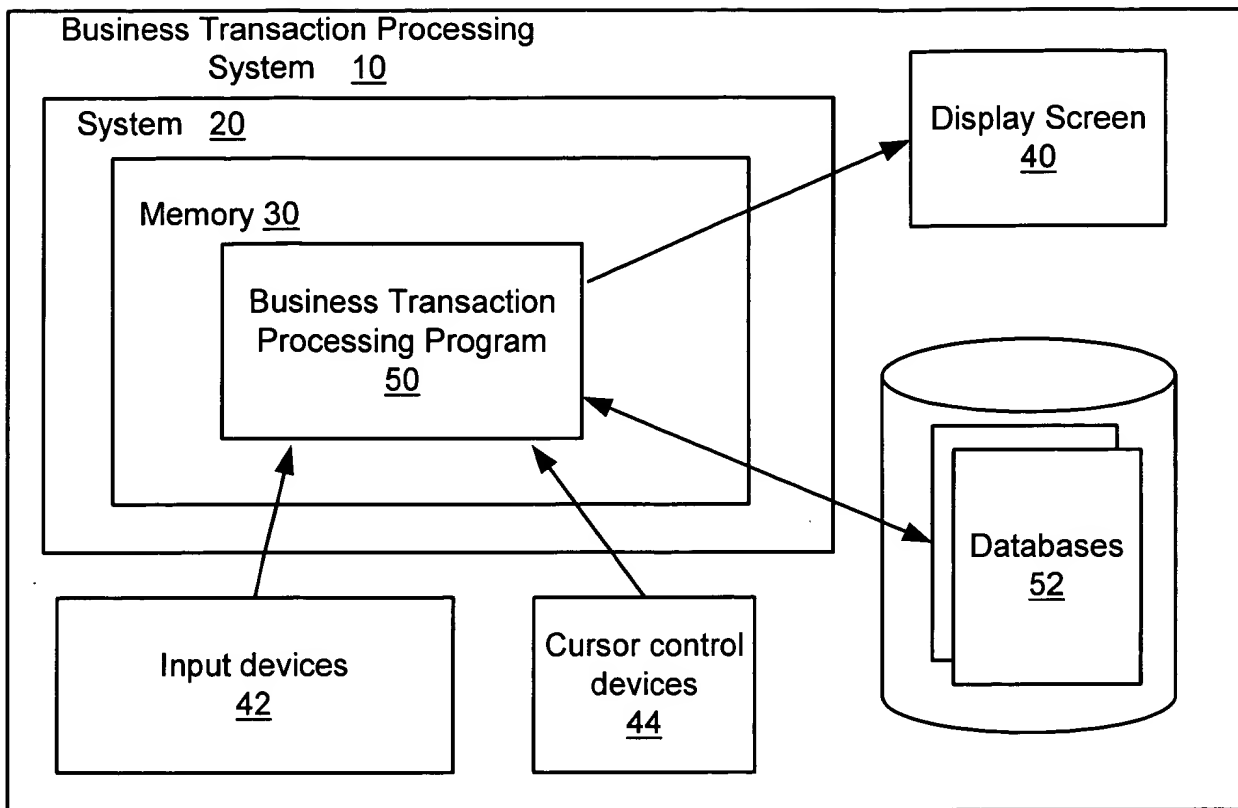
Figure E- 13

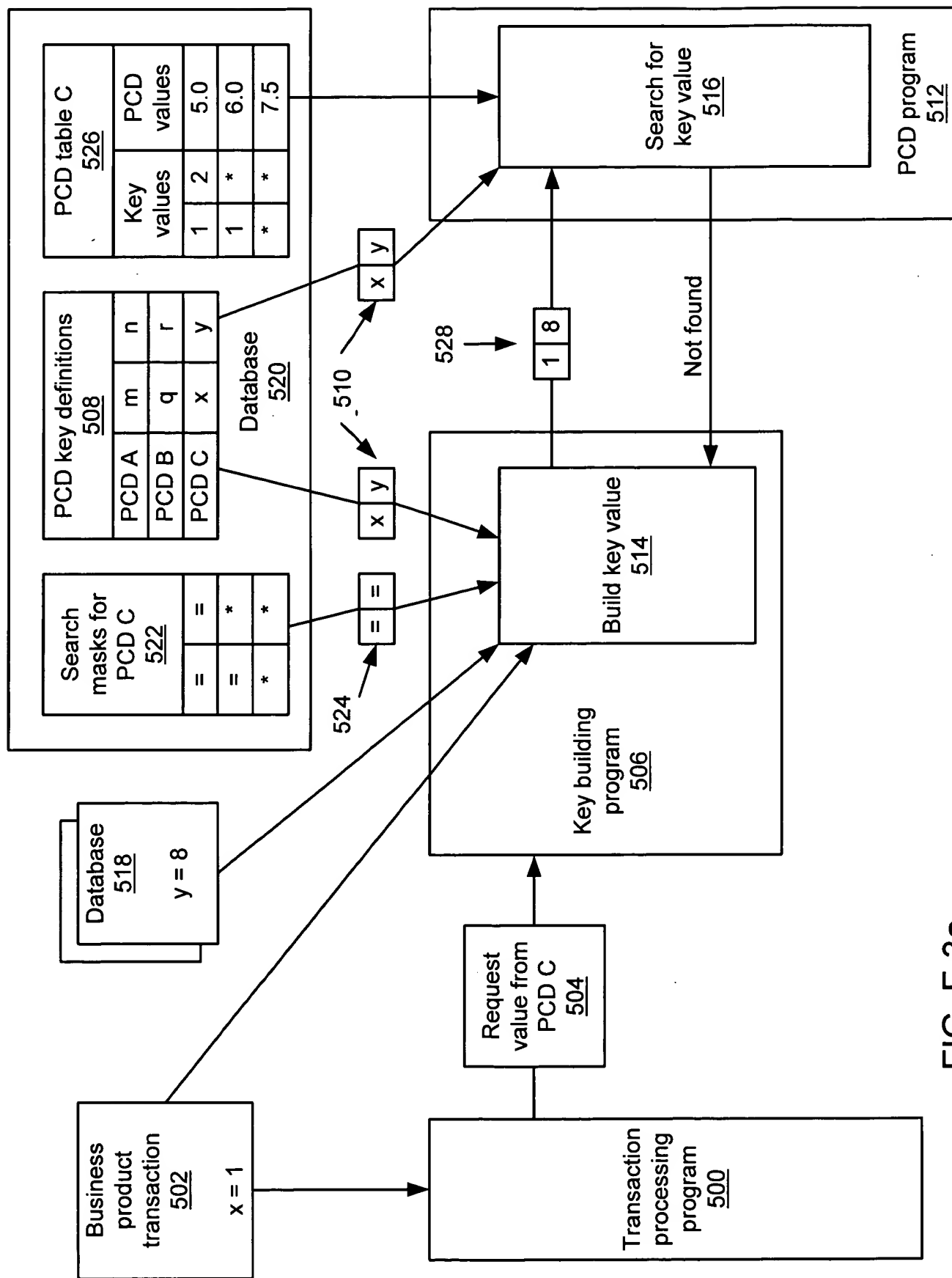
172	174	178		
<u>ROW</u>	<u>KEY VALUES</u>		<u>PACKAGESET SWITCHING TABLE VALUES</u>	
	<u>X</u>	<u>W</u>	<u>Z</u>	<u>DATABASE IDENTIFIER VALUE</u>
<u>1</u>	12	VIS	Y	NN1234567890123456
<u>2</u>	12	DIS	Y	NN1234567890123457
<u>3</u>	12	*	*	NN1234567890123458
<u>4</u>	12	*	Y	NN1234567890123459
<u>5</u>	14	VIS	N	NN1234567890123460
<u>6</u>	14	DIS	N	NN1234567890123461
<u>7</u>	*	*	*	NN1234567890123462
175	176	177	179	<u>170</u>

Figure E- 14

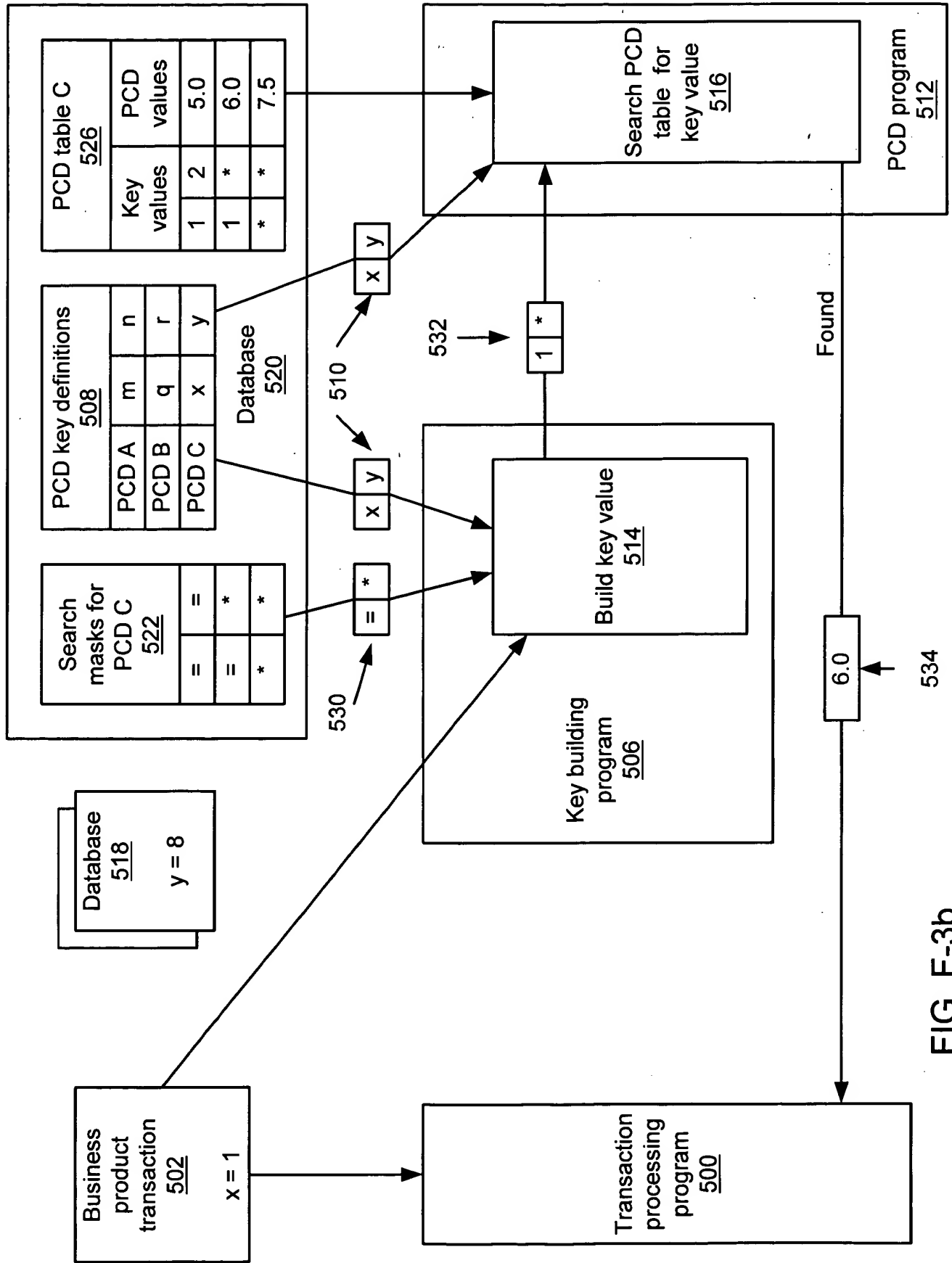


**Figure E- 15**

[illegible]

[illegible]

**FIG. F-3a**



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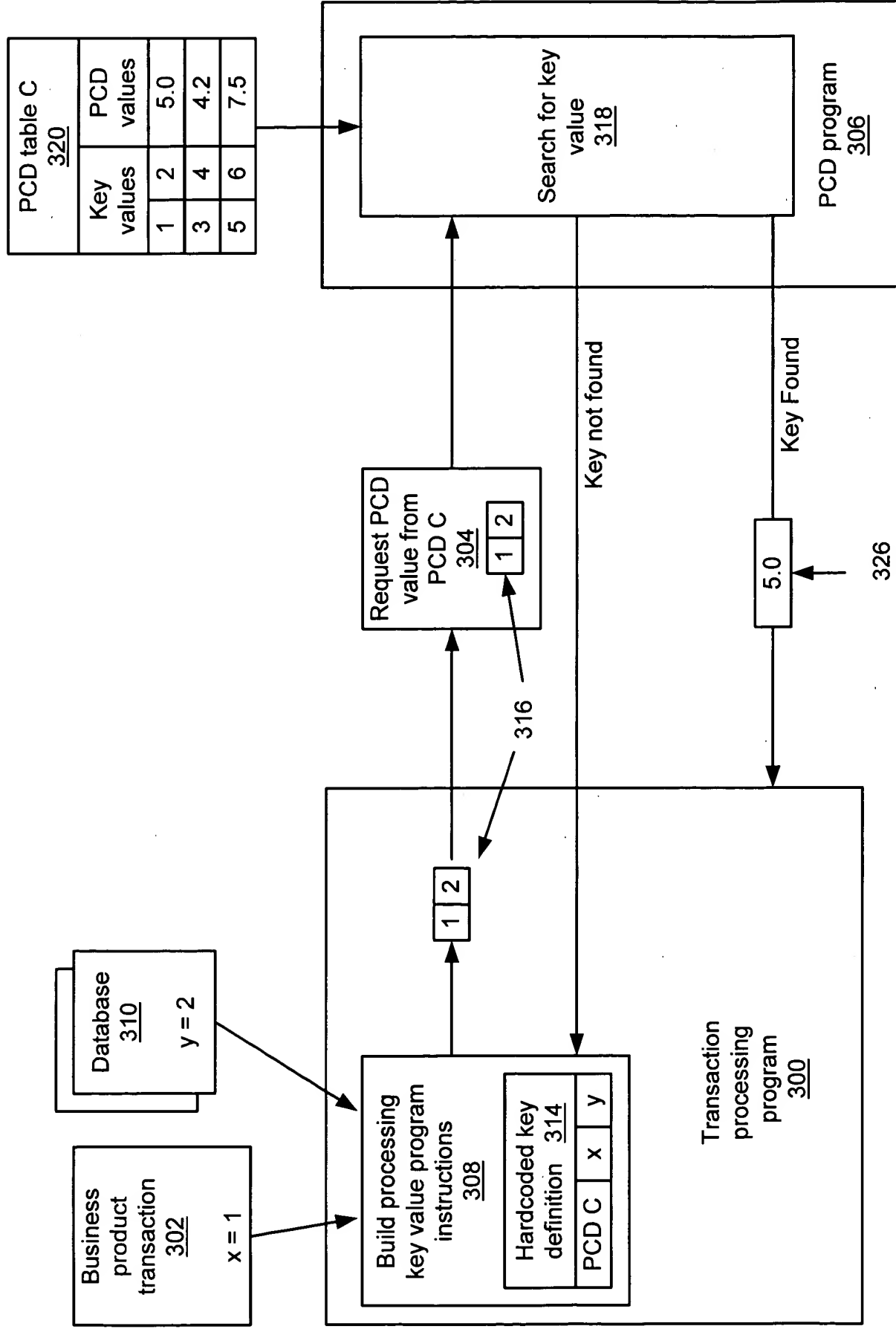


FIG. F-2 - Prior Art

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150				
152 <u>KEY ELEMENT</u>	154 <u>KEY ELEMENT SEQUENCE</u>	156 <u>ELEMENT NAME</u>	158 <u>FIELD LENGTH</u>	160 <u>DATA TYPE</u>
X	1	COMPANY ID	2	NUMERIC
W	2	CREDIT CARD TYPE	3	CHARACTER
Z	3	ON US/NOT ON US	1	CHARACTER

FIG. F-  
4

170				
172 <u>ROW</u>	174 <u>KEY VALUES</u>			178 <u>PCD VALUES</u>
	<u>X</u>	<u>W</u>	<u>Z</u>	<u>TRANSACTION CHARGE</u>
1	12	VIS	Y	10
2	12	DIS	Y	8
3	12	*	*	12
4	12	*	Y	13
5	14	VIS	N	12
6	14	DIS	N	11
7	*	*	*	14

FIG. F-  
5



**FIG. F-6**

200

202

204

PCD 1	User-defined key definition 1
PCD 2	User-defined key definition 2
PCD ...	...
PCD n	User-defined key definition n

FIG. F-7

205

206

208

PCD 1	Search mask table 1
PCD 2	Search mask table 2
PCD ...	...
PCD n	Search mask table n

FIG. F-8

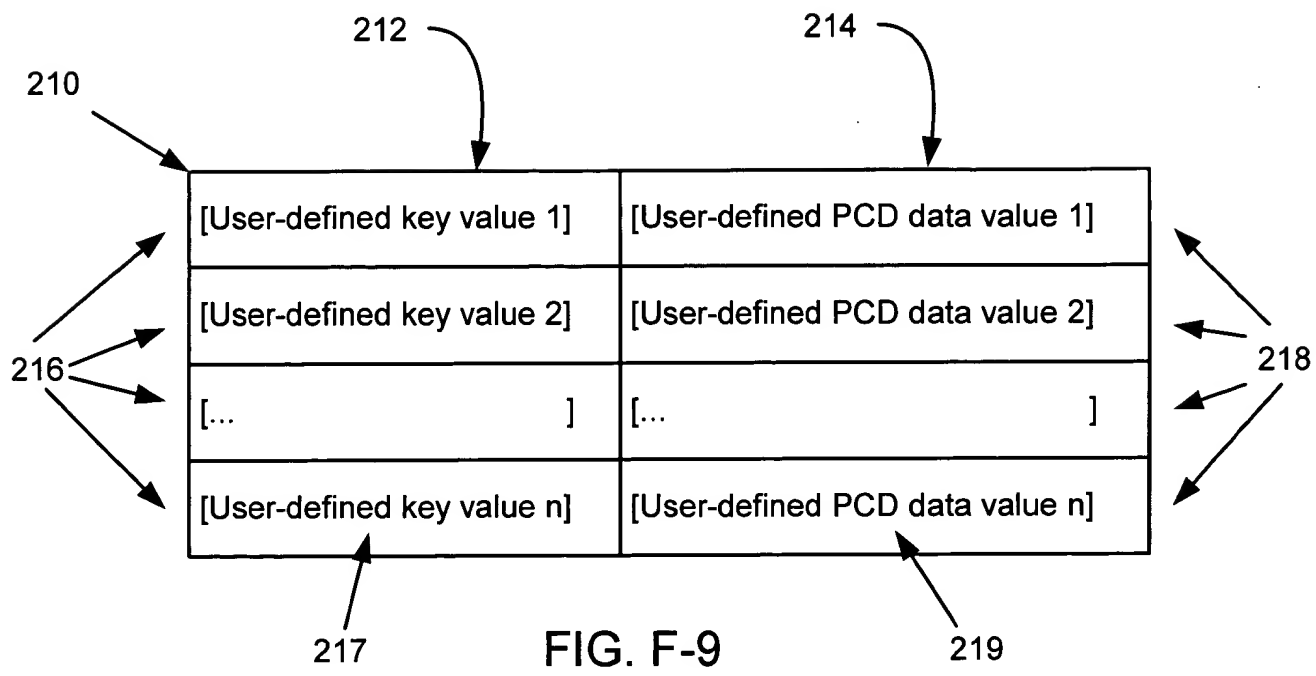


FIG. F-9

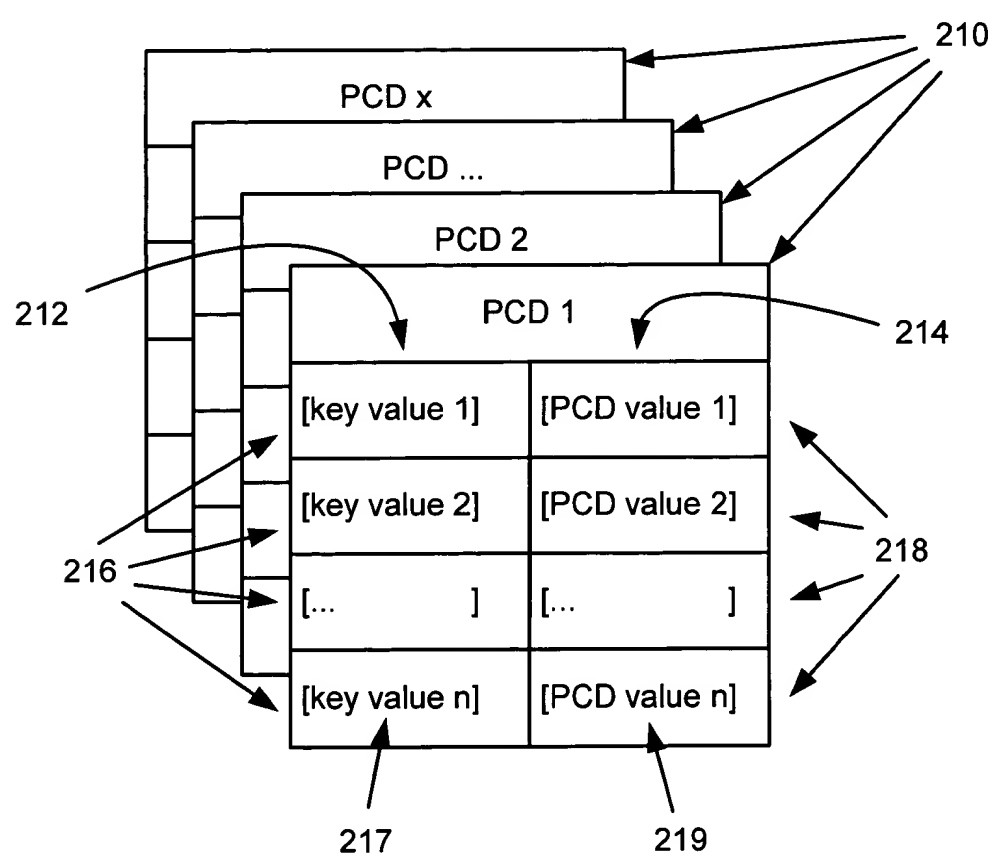


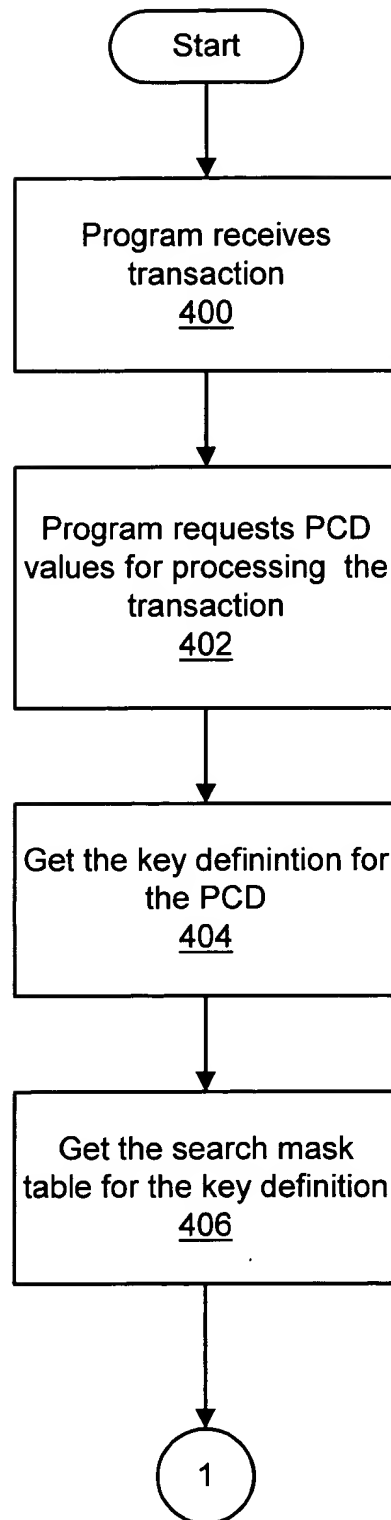
FIG. F-10

20200706560

002201 "ST 002201"

KEY ELEMENT:	PROCESSING KEY VALUES			PCD TABLE ROW	TRANSACTION CHARGE
	<u>X</u>	<u>W</u>	<u>Z</u>		
SEARCH 1:	12	DIS	Y	2	8
SEARCH 2:	12	MSC	Y	-	-
	12	*	Y	4	13
SEARCH 3:	12	MSC	N	-	-
	12	*	N	-	-
	12	*	*	3	12
SEARCH 4:	14	MSC	N	-	-
	14	*	N	-	-
	14	*	*	-	-
	*	*	*	7	14

FIG. F-  
11



**FIG. F-12a**

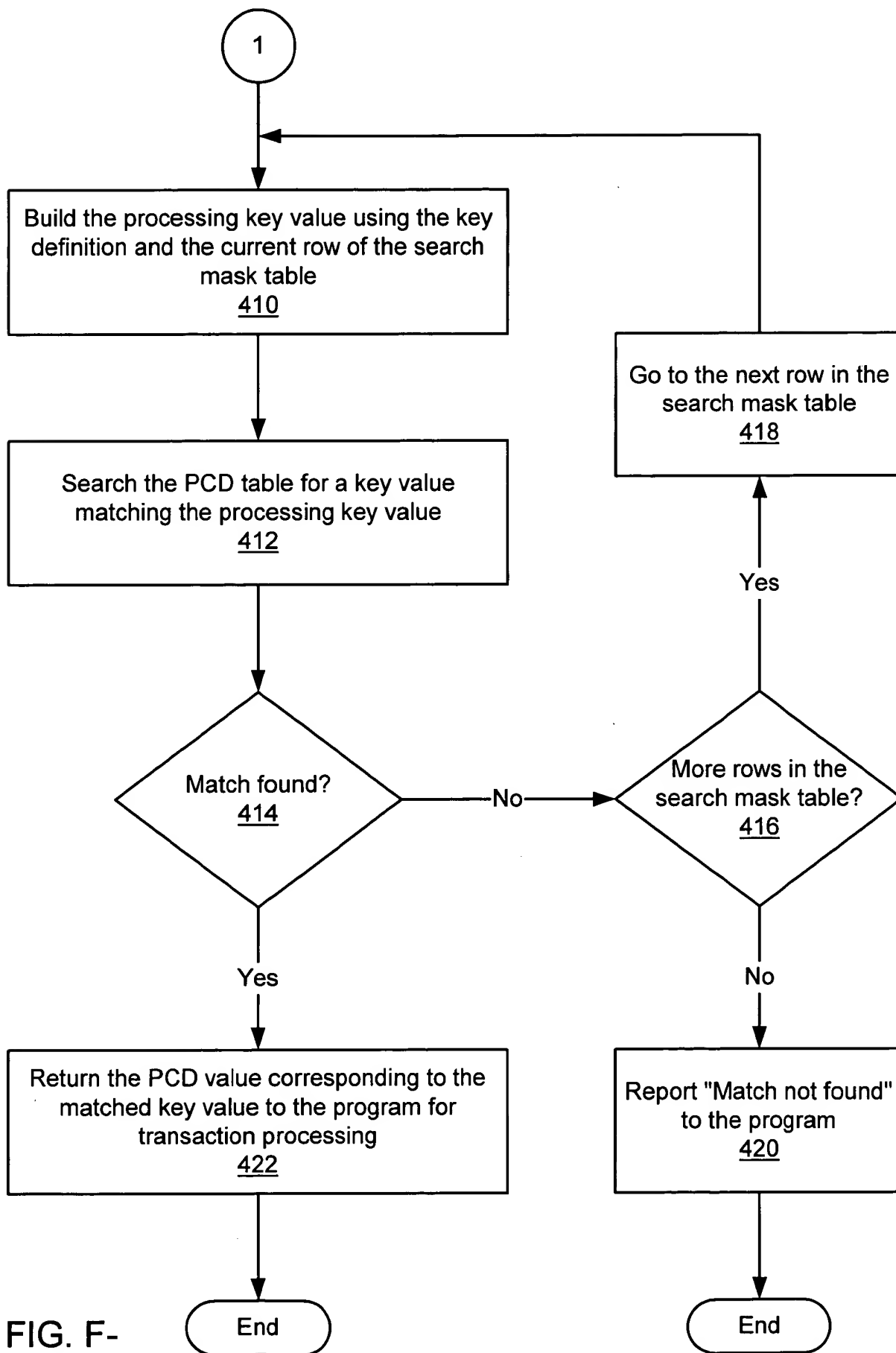


FIG. F-12b

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410

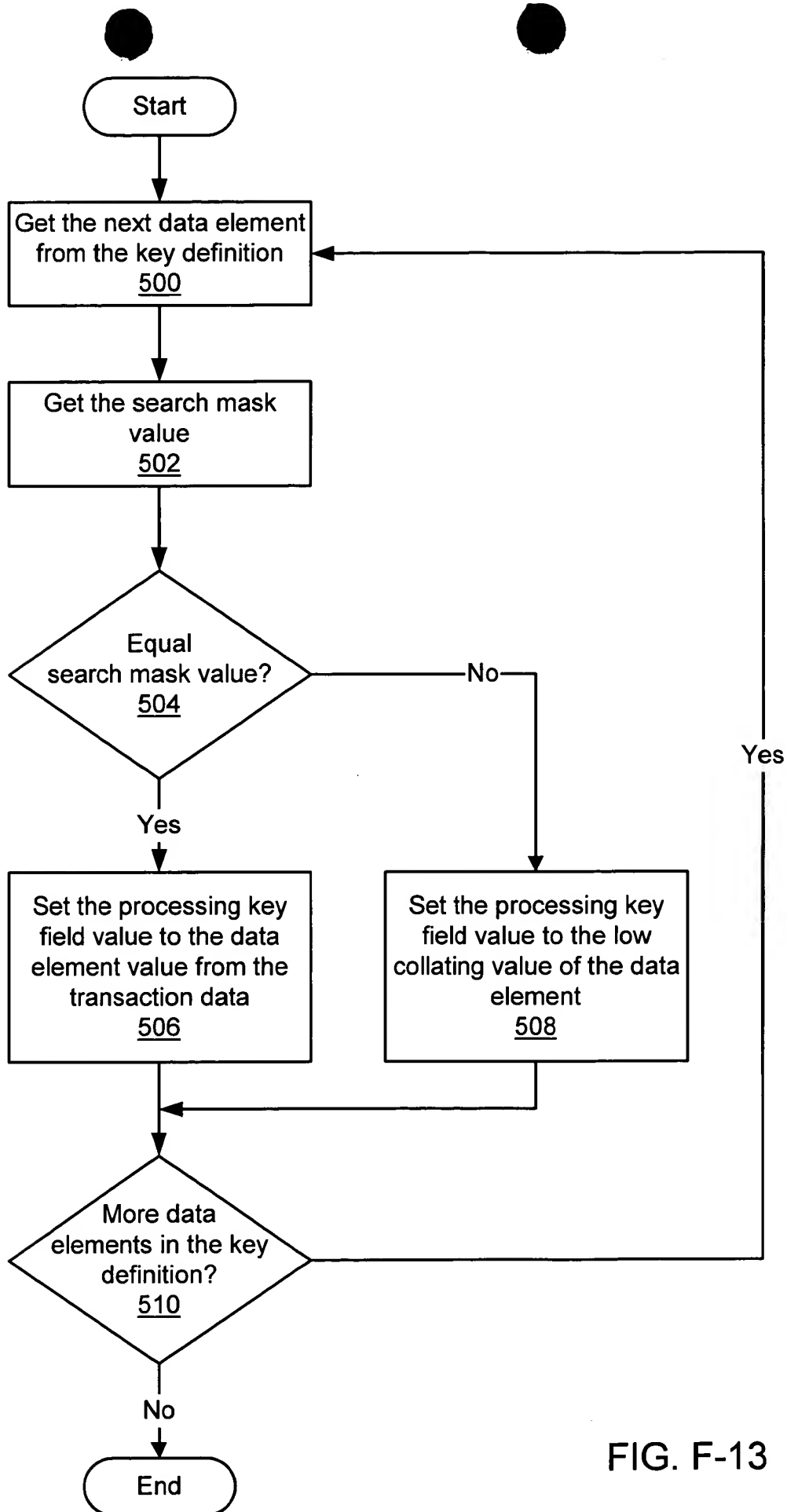


FIG. F-13

500 502 504 506 508 510

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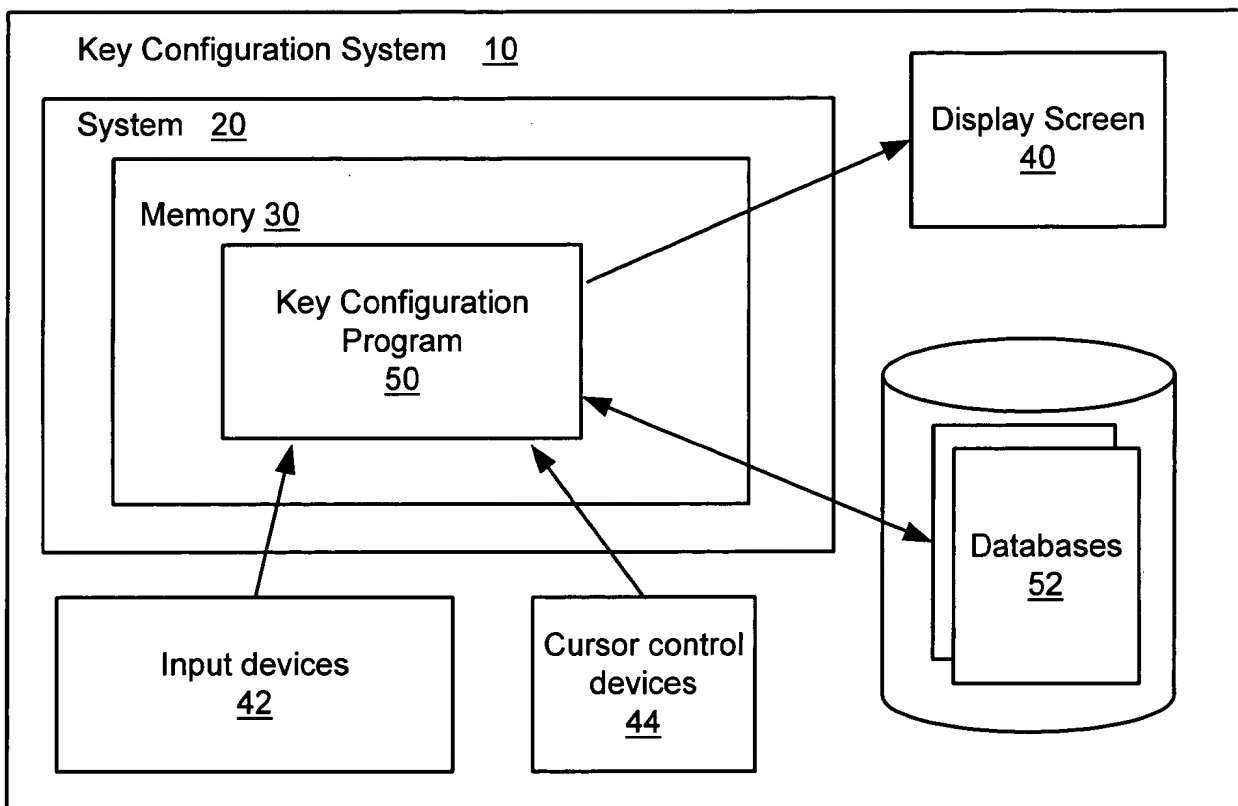


FIG. G-1



002207" 51066960

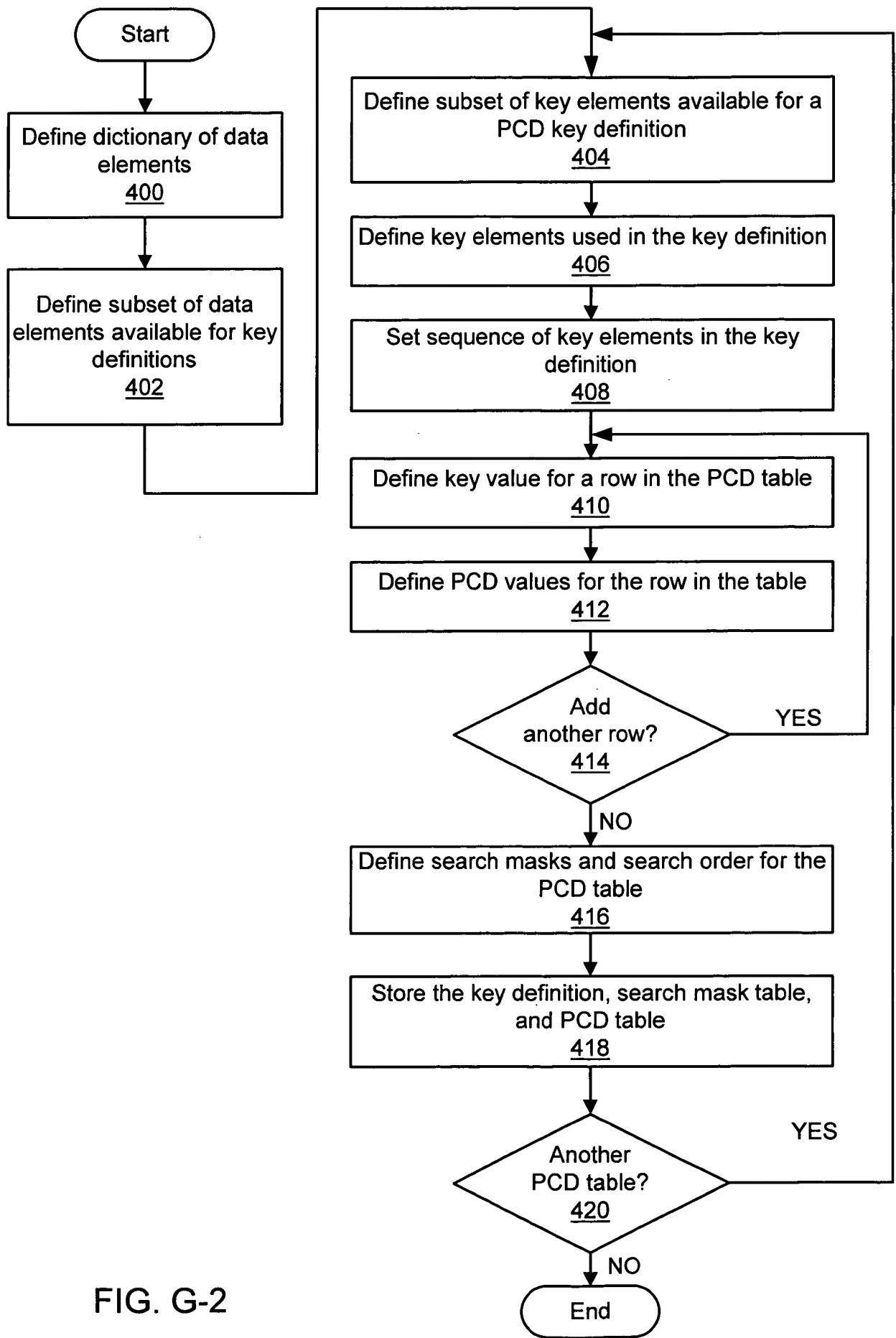
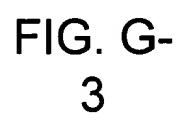


FIG. G-2

[illegible]

122	124	120
DICTIONARY DATA ELEMENTS	USEABLE IN KEYS?	
A	NO	
B	NO	
C	NO	
D	NO	
E	NO	
F	NO	
G	NO	
H	NO	
I	NO	
J	NO	
K	NO	
L	NO	
M	NO	
N	YES	
O	YES	
P	YES	
Q	YES	
R	YES	
S	YES	
T	YES	
U	YES	
V	YES	
W	YES	
X	YES	
Y	YES	
Z	YES	

FIG. G-4

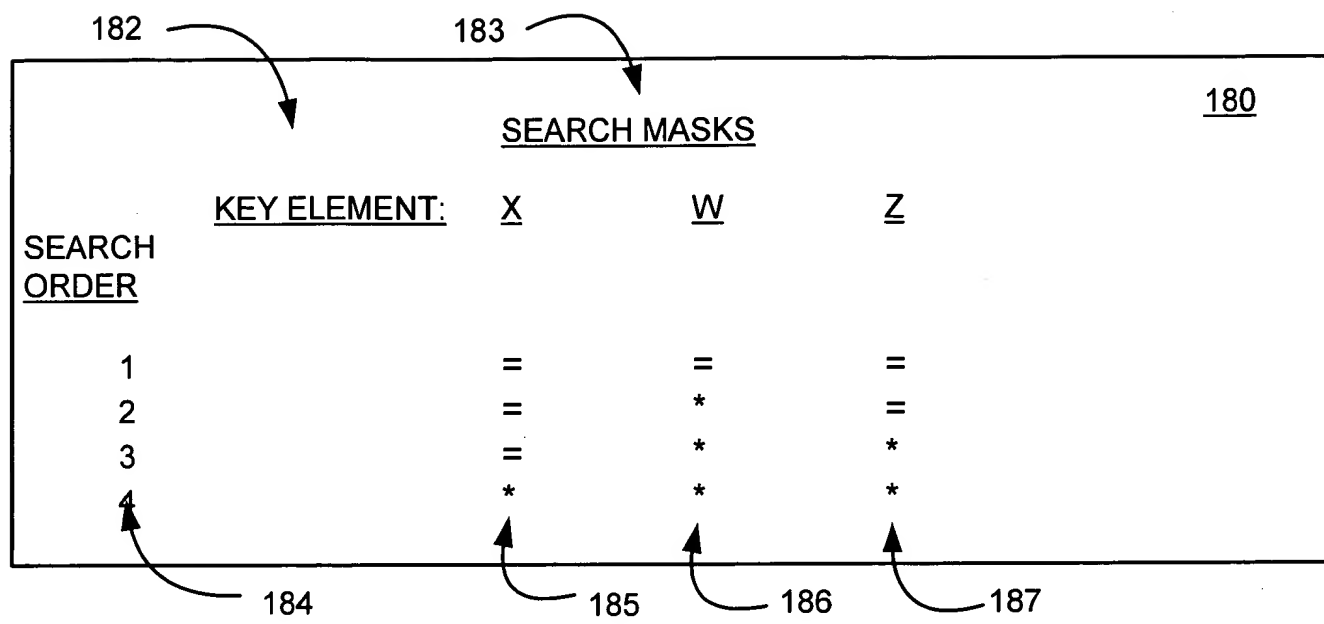


FIG. G-  
9

002201 51066360

1. The first part of the document is a list of names and their corresponding addresses. The names are listed in a column on the left, and the addresses are listed in a column on the right. The names are: John Doe, Jane Smith, and Bob Johnson. The addresses are: 123 Main St, 456 Elm St, and 789 Oak St.

FIG. G-10FIG. G-11

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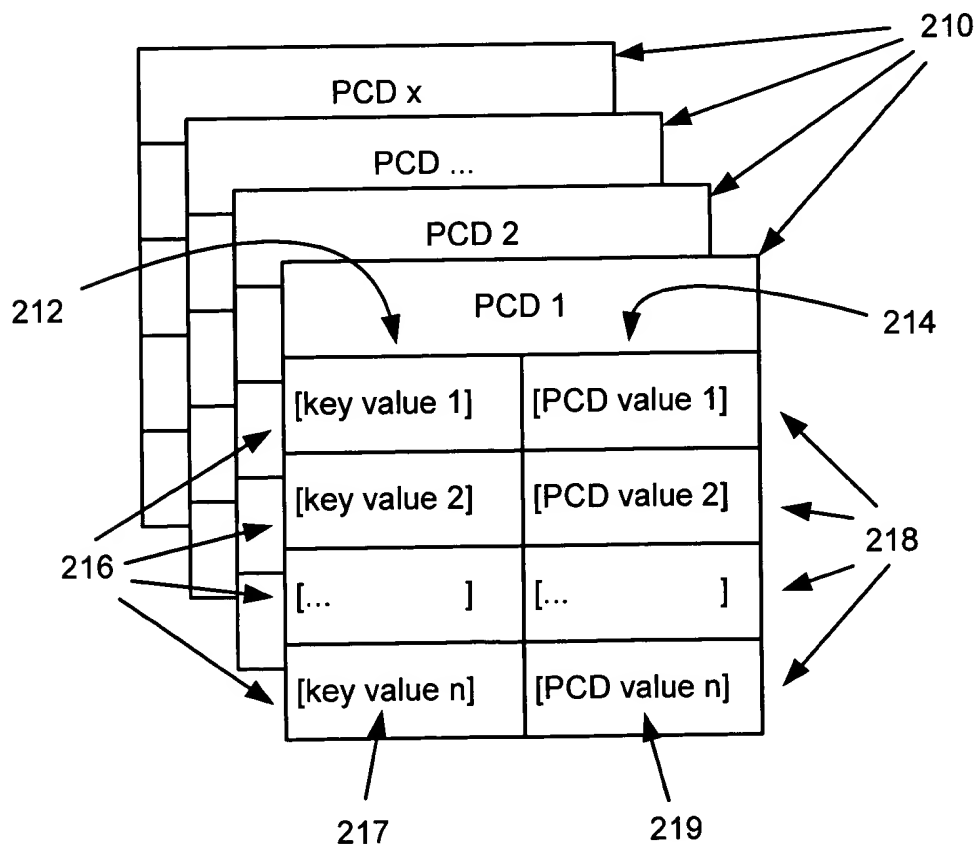
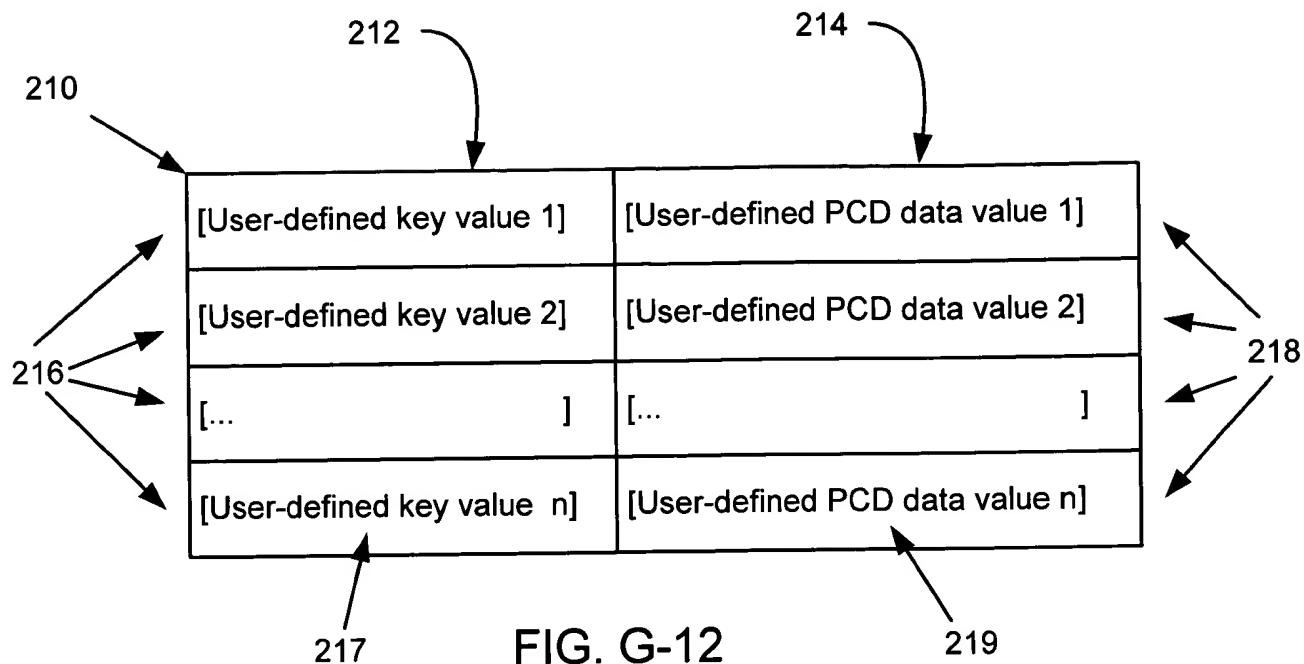


FIG. G-13

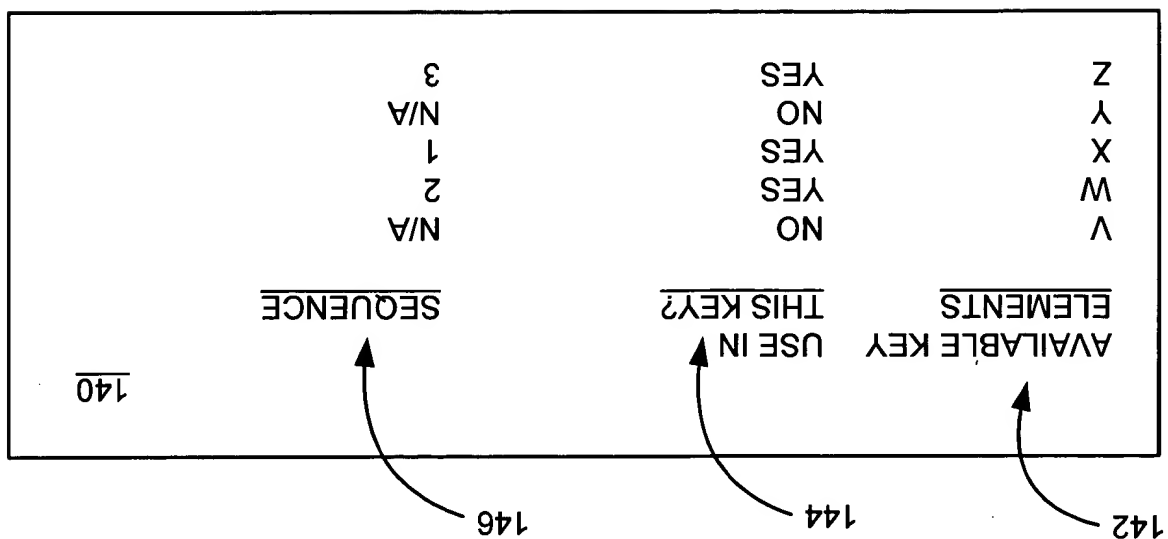
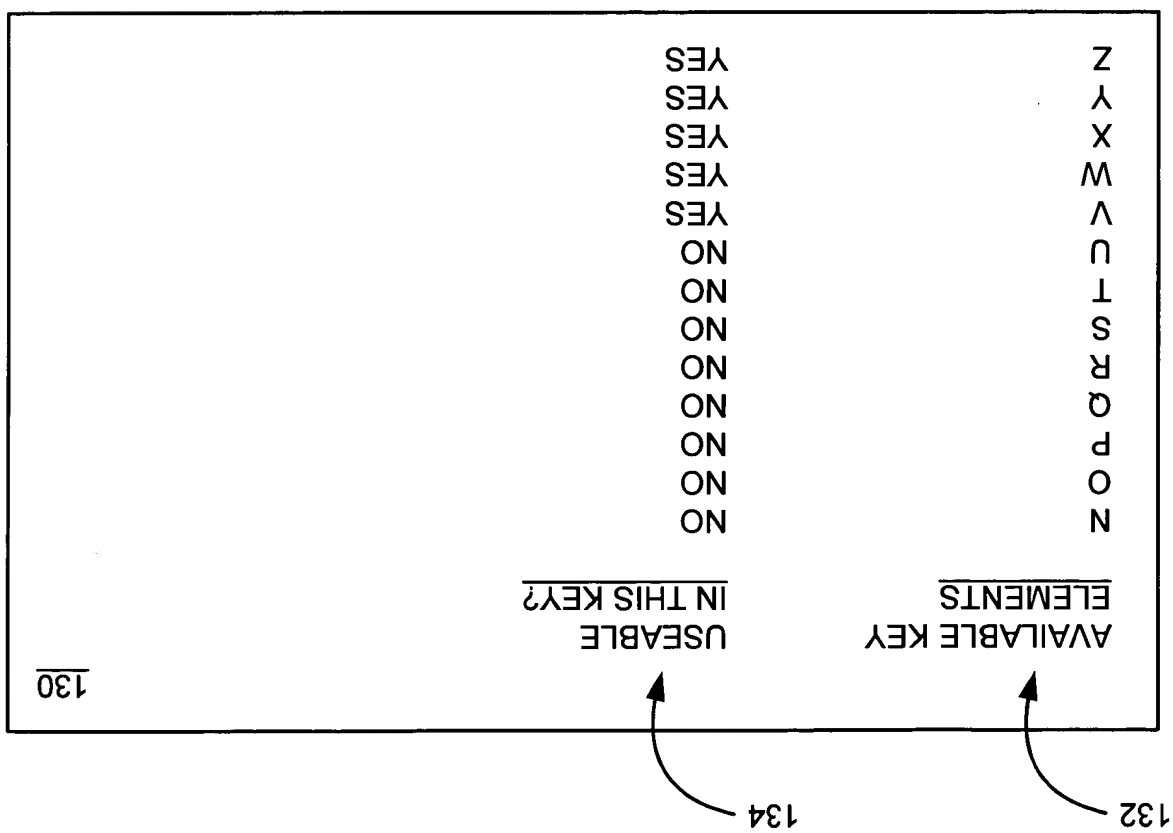


FIG. G-5



66/996  
SECRET 3106360

FIG. G-  
8

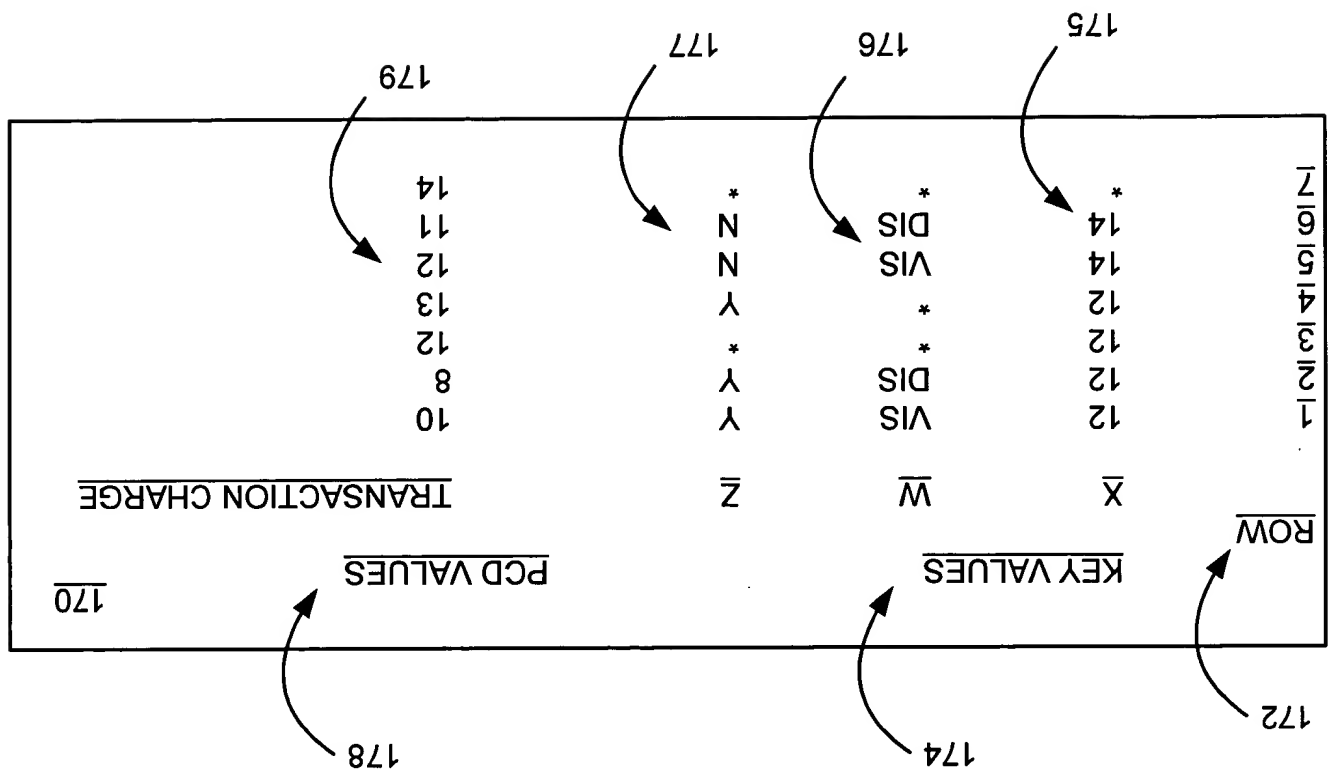
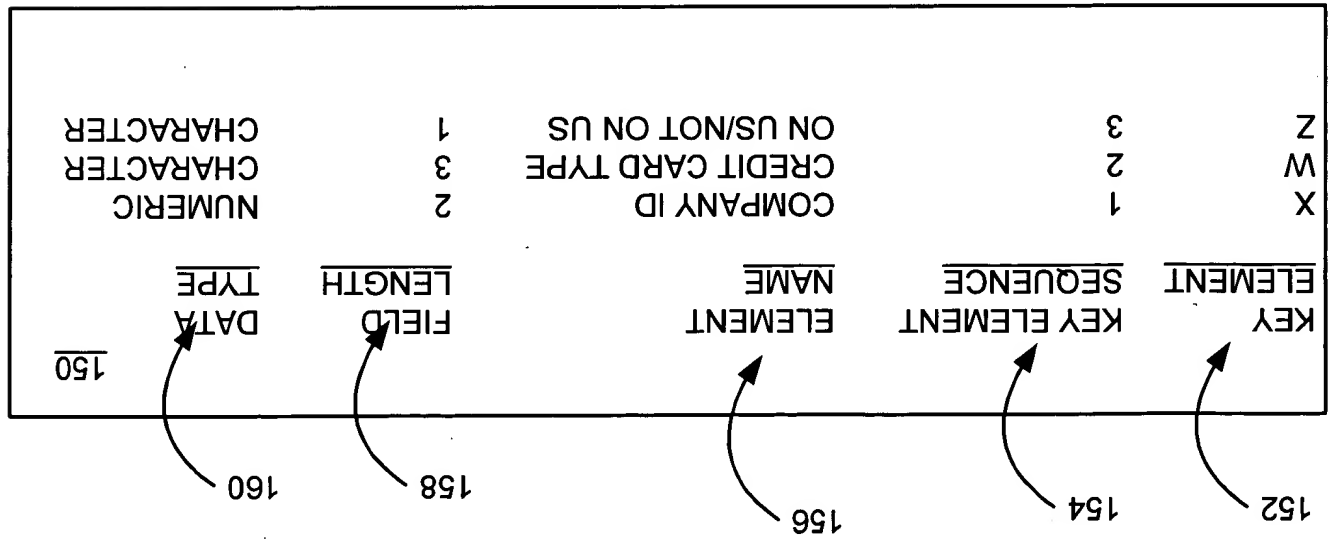


FIG. G-  
7





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002201" 5F005560

KEY ELEMENT:	<u>PROCESSING KEY VALUES</u>			<u>PCD TABLE ROW</u>	<u>TRANSACTION CHARGE</u>
	<u>X</u>	<u>W</u>	<u>Z</u>		
SEARCH 1:	12	DIS	Y	2	8
SEARCH 2:	12	MSC	Y	-	-
	12	*	Y	4	13
SEARCH 3:	12	MSC	N	-	-
	12	*	N	-	-
	12	*	*	3	12
SEARCH 4:	14	MSC	N	-	-
	14	*	N	-	-
	14	*	*	-	-
	*	*	*	7	14

FIG. G-  
14